VOLUME XLVII NUMBER THREE

THE NATIONAL GEOGRAPHIC MAGAZINE

MARCH, 1925

CONTENTS

SIXTEEN ILLUSTRATIONS IN FULL COLOR

Looking Down on Europe
With 68 Illustrations — LIEUTENANT J. PARKER VAN ZANDT

Across French and Spanish Morocco
With 20 Illustrations — HARRIET CHALMERS ADAMS

The Camera's Color Records of North Africa
16 Autocromes Lumiere — GERVAIS COURTELLEMONT

The Singing Towers of Belgium and Holland
With 22 Illustrations — WILLIAM GORHAM RICE

PUBLISHED BY THE
NATIONAL GEOGRAPHIC SOCIETY
HUBBARD MEMORIAL HALL
WASHINGTON, D.C.

$3.50 A YEAR 50¢ THE COPY

NATIONAL GEOGRAPHIC SOCIETY

GEOGRAPHIC ADMINISTRATION BUILDINGS

SIXTEENTH AND M STREETS NORTHWEST, WASHINGTON, D. C.

GILBERT GROSVENOR, President — HENRY WHITE, Vice-President
JOHN OLIVER LA GORCE, Vice-President — O. P. AUSTIN, Secretary
JOHN JOY EDSON, Treasurer — GEO. W. HUTCHISON, Associate Secretary
BOYD TAYLOR, Assistant Treasurer — EDWIN P. GROSVENOR, General Counsel
FREDERICK V. COVILLE, Chairman Committee on Research

EXECUTIVE STAFF OF THE NATIONAL GEOGRAPHIC MAGAZINE

GILBERT GROSVENOR, EDITOR

JOHN OLIVER LA GORCE, Associate Editor

WILLIAM J. SHOWALTER, Assistant Editor — RALPH A. GRAVES, Assistant Editor — FRANKLIN L. FISHER, Chief of Illustrations Division

J. R. HILDEBRAND, Chief of School Service

BOARD OF TRUSTEES

CHARLES J. BELL
President American Security and Trust Company

JOHN JOY EDSON
Chairman of the Board, Washington Loan & Trust Company

DAVID FAIRCHILD
In Charge of Agricultural Explorations, U. S. Department of Agriculture

C. HART MERRIAM
Member National Academy of Sciences

O. P. AUSTIN
Statistician

GEORGE R. PUTNAM
Commissioner U. S. Bureau of Lighthouses

GEORGE SHIRAS, 3D
Formerly Member U. S. Congress, Faunal Naturalist, and Wild-game Photographer

E. LESTER JONES
Director U. S. Coast and Geodetic Survey

WILLIAM HOWARD TAFT
Chief Justice of the United States

GRANT SQUIRES
Military Intelligence Division, General Staff, New York

C. M. CHESTER
Rear Admiral U. S. Navy, Formerly Supt. U. S. Naval Observatory

J. HOWARD GORE
Prof. Emeritus Mathematics, The George Washington University

FREDERICK V. COVILLE
Botanist, U. S. Department of Agriculture

RUDOLPH KAUFFMANN
Managing Editor The Evening Star

JOHN FOOTE, M. D.
Professor of Pediatrics, Georgetown University

JOHN OLIVER LA GORCE
Associate Editor National Geographic Magazine

CHARLES G. DAWES
Vice-President Elect of the United States

JOHN BARTON PAYNE
Chairman American Red Cross

A. W. GREELY
Arctic Explorer, Major General U. S. Army

GILBERT GROSVENOR
Editor of National Geographic Magazine

GEORGE OTIS SMITH
Director U. S. Geological Survey

O. H. TITTMANN
Formerly Superintendent U. S. Coast and Geodetic Survey

HENRY WHITE
Member American Peace Commission, Formerly U. S. Ambassador to France, Italy, etc.

STEPHEN T. MATHER
Director National Park Service

ORGANIZED FOR "THE INCREASE AND DIFFUSION OF GEOGRAPHIC KNOWLEDGE"

TO carry out the purposes for which it was founded thirty-seven years ago, the National Geographic Society publishes this Magazine. All receipts are invested in the Magazine itself or expended directly to promote geographic knowledge.

ARTICLES and photographs are desired. For material which the Magazine can use, generous remuneration is made. Contributions should be accompanied by an addressed return envelope and postage.

IMMEDIATELY after the terrific eruption of the world's largest crater, Mt. Katmai, in Alaska, a National Geographic Society expedition was sent to make observations of this remarkable phenomenon. Four expeditions have followed and the extraordinary scientific data resulting given to the world. In this vicinity an eighth wonder of the world was discovered and explored—"The Valley of Ten Thousand Smokes," a vast area of steaming, spouting fissures. As a result of The Society's discoveries this area has been created a National Monument by proclamation of the President of the United States.

AT an expense of over $50,000 The Society sent a notable series of expeditions into Peru to investigate the traces of the Inca race. Their discoveries form a large share of our knowledge of a civilization waning when Pizarro first set foot in Peru.

THE Society also had the honor of subscribing a substantial sum to the expedition of Admiral Peary, who discovered the North Pole.

NOT long ago The Society granted $25,000, and in addition $75,000 was given by individual members to the Government when the congressional appropriation for the purpose was insufficient, and the finest of the giant sequoia trees of California were thereby saved for the American people.

THE Society is conducting extensive explorations and excavations in northwestern New Mexico, which was one of the most densely populated areas in North America before Columbus came, a region where prehistoric peoples lived in vast communal dwellings and whose customs, ceremonies, and name have been engulfed in an oblivion.

THE Society also is maintaining expeditions in the unknown area adjacent to the San Juan River in southeastern Utah, and in Yunnan, Kweichow, and Kansu, China—all regions virgin to scientific study.

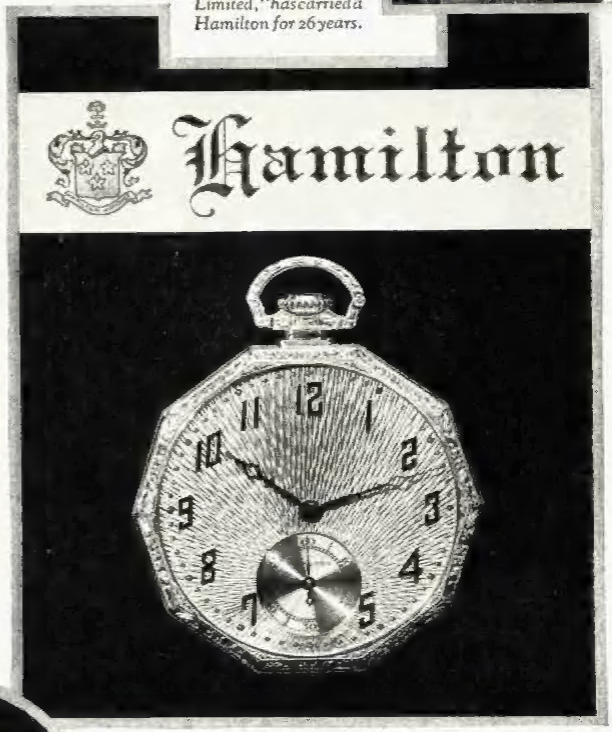
Copyright, 1925, by National Geographic Society, Washington, D. C., in the United States and Great Britain. All rights reserved. Entered at the Post Office at Washington, D. C., as Second-Class Mail Matter. Acceptance for mailing at special rate of postage provided for in Sec. 1103, Act of October 3, 1917, authorized July 1, 1918.

Be as Sure of *Your* Time as the Railroad Conductor is of His

This accurate watch keeps America's crack trains on schedule

G. M. Stoll, conductor of the "Broadway Limited," has carried a Hamilton for 26 years.

"*WHAT TIME HAVE YOU?*" Ask this question of a group of business men. Out come their watches. One watch is three minutes slow, another five minutes fast, and so on. But ask this question of a group of railroad men. If there is any variation it is usually only a matter of seconds. Yet it is so very easy for every business and professional man to have a watch as unfailingly accurate as the railroad man's. When you buy a watch get the make he uses. For thirty years there has been *one* watch that has been generally favored on America's railroads, a watch that has earned the unique distinction of being called "The railroad timekeeper of America." This watch of accuracy fame is the Hamilton. It rides in cab and coach of such famous fliers as the Twentieth Century, the California Limited, the Broadway Limited and the Olympian. When you buy a Hamilton, accuracy is assured.



The watch above is the Decagon design. At the left is the women's Tonneau model wrist watch. Hamilton Watches may be had in 14K or filled green or white gold, plain or engraved. Prices $48 to $250. You can choose from a wide variety of cases and dials.

The secret of Hamilton's accuracy is capacity to take infinite pains. Hamilton Watches are not built on a quantity-production basis. With us every watch is an individual piece of fine mechanism, tested and re-tested until final accuracy is obtained. No Hamilton leaves our factory until it has proved itself worthy of the Hamilton name, and ready to serve you as an accurate timekeeper. This insures the quality of the Hamilton Watch that you purchase and enables us to give a broad guarantee of satisfaction.

When you buy a Hamilton you can do so with the profound assurance that, with proper care, it will give you accurate time for years to come.

A Hamilton Watch to suit your individual preference may be selected from a number of beautiful cases and dials. Some are simple, graceful, and chaste. Some are beautifully engraved and ornamented. All have an intrinsic beauty that will keep them fashionable after years of service.

Ask your jeweler to show you a Hamilton today. He can show you Hamilton pocket and strap watches for men and charming wrist watches for women. Send for a copy of our new illustrated booklet, "The Timekeeper." Address Dept. 1B, Hamilton Watch Company, on the Lincoln Highway, Lancaster, Pa., U. S. A.

CADILLAC MOTOR CARS — STANDARD OF THE WORLD

V63 V63

The human desire to own the best suggests the Cadillac

* * *

It is human to want that which is recognized to be the best of its kind.

Nothing less can possibly afford the same deep and lasting satisfaction.

Nothing less *pays so well* in joy of possession or as an investment.

Nothing less is worthy of him who has the means to maintain his personal standards—and who finds the thought of the second or third choice unsatisfying.

The human desire for that which is best is back of every purchase of a Cadillac car.

CADILLAC MOTOR CAR COMPANY, DETROIT, MICHIGAN

Division of General Motors Corporation

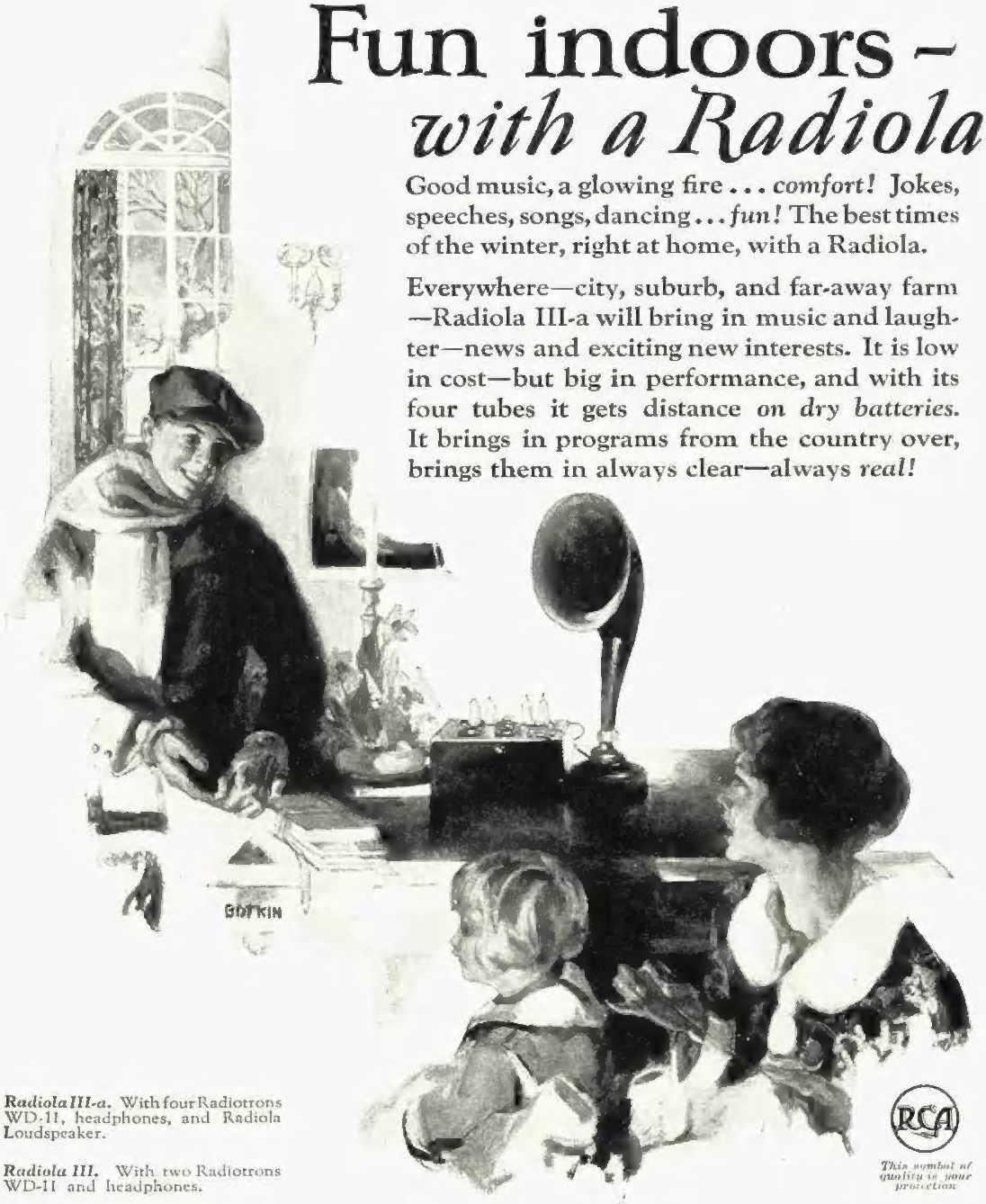
CADILLAC

V63

Fun indoors – *with a Radiola*

Good music, a glowing fire . . . *comfort!* Jokes, speeches, songs, dancing . . . *fun!* The best times of the winter, right at home, with a Radiola.

Everywhere—city, suburb, and far-away farm—Radiola III-a will bring in music and laughter—news and exciting new interests. It is low in cost—but big in performance, and with its four tubes it gets distance *on dry batteries.* It brings in programs from the country over, brings them in always clear—always *real!*



Radiola III-a. With four Radiotrons WD-11, headphones, and Radiola Loudspeaker.

Radiola III. With two Radiotrons WD-11 and headphones.

You can always add Radiola Balanced (push-pull) Amplifier, with two Radiotrons WD-11, to make a four tube set out of Radiola III.

RADIO CORPORATION OF AMERICA

Sales Offices:

233 Broadway, New York
10 So. La Salle St., Chicago, Ill.
28 Geary St., San Francisco, Cal.

RCA

This symbol of quality is your protection

"There's a Radiola *for every purse"*

Radiola

REG U.S. PAT OFF

Raymond-Whitcomb Cruises

The Mediterranean

The Lands of the Midnight Sun

Round the World

Certain features of Raymond-Whitcomb Cruises can be described only by superlatives. Everywhere our cruise-courses are the most varied; the routes, including ports visited by no other cruises, are the most interesting; in departure dates, in attractiveness of season and duration our cruises are the most diverse.

Summer Mediterranean Cruise -- June 27

The brand-new 20,000-ton "Oronsay", on which every room is an outside room, will sail for us on June 27 on the most complete Mediterranean Cruise ever devised. The great cities—Naples, Athens, Constantinople, Jerusalem, Cairo, Algiers, &c., are of course, included. In addition the cruise visits Rome, Civita Vecchia, Genoa, Leghorn, Pisa, Venice, Tangier, Granada, Ragusa, Cattaro, Jaffa, Marseilles—a dozen places, the great majority of which figure in no other cruise-route. At least thirty famous ports and towns figure in the itinerary. *Rates $675 & up.*

"Midnight Sun Cruise" -- June 30

This is an uncontested Raymond-Whitcomb feature. Our fifth summer cruise to Iceland, the North Cape, the Norwegian Fjords, Sweden, Denmark, &c., sails June 30 on the palatial "Franconia", one of the newest Cunarders, well-known and popular as a cruise-ship. To this region of the Northland with its stupendous scenery & picturesque natives we were the first to send cruises direct from New York. We know the field far better than any American company, and our cruises do not merely touch at a port or two or visit only a couple of fjords, but include the most magnificent scenic districts and significant points from the Arctic to the North Sea. $725 *& up.*

Round the World Cruise -- October 10

The route of this cruise is truly phenomenal, including the glorious Antipodes—Australia, New Zealand, Tasmania & New Guinea —as well as the magnificent Oriental countries—Japan, China, Java, India, &c. The ship is the brand-new 20,000-ton Cunarder "Carinthia" (sister-ship to the "Franconia"). Sails October 10, 1925—unprecedently visiting all six continents. $2,000 *& up.*

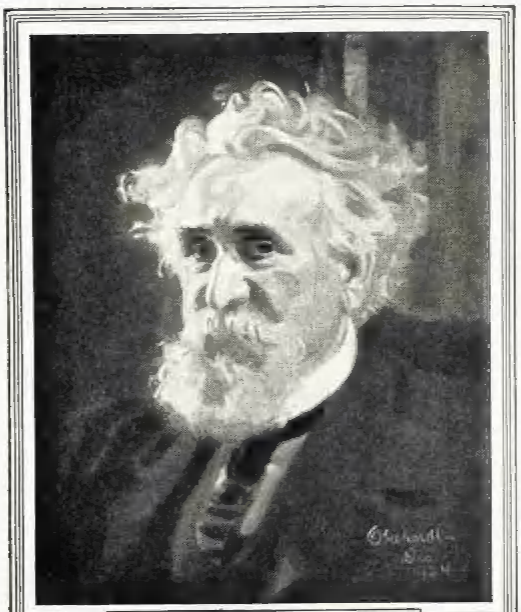
Booklets and deck-plans for all these cruises from

Raymond & Whitcomb Co.

Executive Offices: 22 Beacon Street, Boston

NEW YORK PHILADELPHIA CHICAGO
SAN FRANCISCO LOS ANGELES

ELGIN . . . . . TIME · KEEPER · TO · THE · SUCCESSFUL



HUDSON MAXIM

When robbed of my Elgin I lost a friend that had to be replaced . . . by another Elgin

One of a series of little biographies of Elgin Watches.

. . . . . WRITTEN BY EMINENT ELGINEERS

* * *

A watch is an indispensable part of me, but the one watch—the watch of watches—the best watch ever—an Elgin in a hunter case—was purchased by me just after I had sold the secret of the high explosive Maximite to the United States Government in 1901.

On the crystal, right between me and the time of day, I had photographed the face of my wife as she was when I first met her—the loveliest face in all the world, which has since haloed all my hours.

I carried this watch for about five years, when one day, in a crowded trolley car, during a savage February blizzard, some light-fingered fellow working that crowd took my watch, and when I next looked for the time, I found I had only the end of the chain.

Well, I bought another Elgin, restored the photograph, and thus far I have avoided losing it to the light-fingered gentry.

I like a good time. Time is my keeper, so I like a good time-keeper.

—by HUDSON MAXIM

ELGIN

THE WATCH WORD FOR ELEGANCE AND EFFICIENCY

ELGIN NATIONAL WATCH COMPANY, ELGIN, U. S. A.

© E. N. W. CO.

The NEW KELLY FLEXIBLE CORD

The easier-riding, longer-wearing tire made possible by the Kelly Integral Bead Construction

Easier-riding than the ordinary cord tire, because it is more flexible.

More flexible because the Integral Bead construction—used only by Kelly—has made possible a flexible tread as well as a flexible carcass.

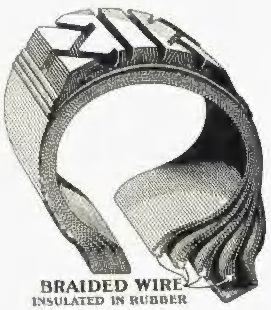
Longer lived, partly because of the ruggedness of the tread but principally because the tire's flexibility allows it to *absorb* the shocks of road obstructions instead of *resisting* them.

A broad, tough, long-wearing non-skid tread that performs its duties efficiently.

Altogether, the best tire Kelly has ever built.

KELLY-SPRINGFIELD TIRE CO.

250 West 57th Street - - - New York, N. Y.



The bead of the new Kelly Cord is formed by enclosing braided wire in the loops of the cord fabric. The cords are continuous from the beginning of the inmost ply to the end of the outer. The whole tire thus has a flexibility and "give" that is necessarily lacking in tires made by the ordinary method.

ROUND THE WORLD FLIERS CHOOSE PACKARD EIGHT

ONLY PACKARD CAN BUILD A PACKARD

On November 9, 1924, Mayor Dever, on behalf of the citizens of Chicago, presented Capt. Lowell H. Smith and Lt. Leslie P. Arnold each with a Packard Eight sport model—the car of their choice.

The Packard Motor Car Company acknowledges one of the finest compliments ever paid to any motor car manufacturer.

Five of the six round the world fliers, when asked which among all of the motor cars in the world they would like as gifts in recognition of their history-making flight, voted for the Packard Eight.

To have these men, who entrusted their lives to the Liberty aeroplane motor—first developed by Packard—choose the Packard Eight, is an endorsement which cannot be taken lightly.

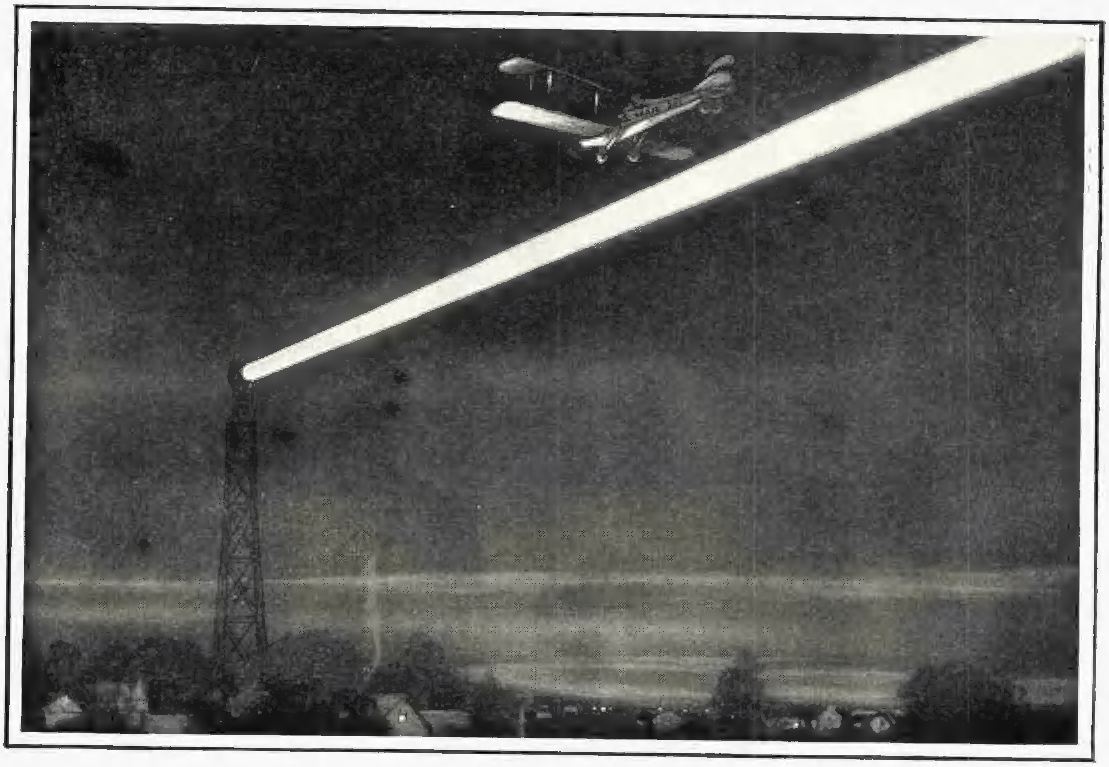
Copyright by Underwood & Underwood

Above: Captain Lowell H. Smith

Below: Lieutenant Leslie P. Arnold

Packard Six and Eight both furnished in ten body types, open and enclosed. Packard's extremely liberal monthly payment plan makes possible the immediate enjoyment of a Packard, purchasing out of income instead of capital.

ASK THE MAN WHO OWNS ONE



Beacons of the sky

This achievement has been made possible by engineers of the Illuminating Engineering Laboratories of the General Electric Company, working with officials of the Post Office Department. Their services are freely at the disposal of any city or organization with a lighting problem to solve.

Between Cleveland, Ohio, and Rock Springs, Wyoming, along the night route of the air mail service, tall beacons have been placed every twenty-five miles.

Revolving on great steel towers, General Electric searchlights, totaling 1,992,000,000 candle-power, blaze a path of light for the airplane pilot.

What the lighthouse is to the ocean navigator, these beacons are to the conquerors of the air.

GENERAL ELECTRIC

JOHN POWELL AT HIS STEINWAY

STEINWAY

THE INSTRUMENT OF THE IMMORTALS

No MATTER where the Steinway goes it carries with it the very essence of the great and subtle art of music. Its response to the hand and spirit of the musician is unequaled. Through its miraculous singing tone the most exquisite passages and the most profound measures of the great composers attain their full significance. It was chosen by Liszt and Rubinstein. It is the choice of such pianists as Paderewski, Rachmaninoff and Hofmann. But the greatest tribute to its excellence is this—that the overwhelming majority of Steinway pianos have been bought by people of moderate means, who have realized the true economy that lies in buying the best. Always the most satisfactory. Always the cheapest in the end.

To this public the Steinway is sold, as a matter of principle, at the lowest possible price, and upon terms that keep it well within the reach of every true lover of music. Some one of the numerous styles and sizes will fit your home and your income. Each is a true Steinway. And each returns, year after year, a full dividend of delight. You need never buy another piano.

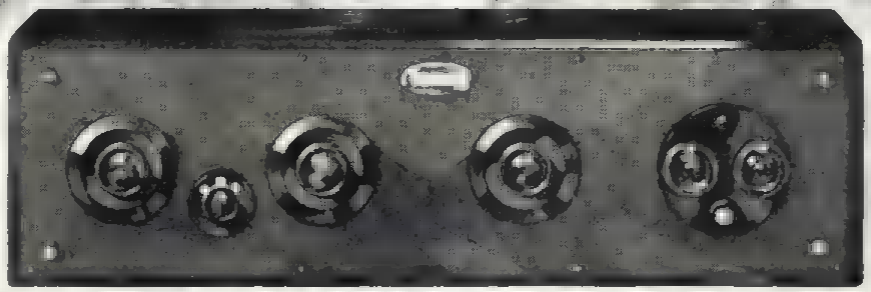
There is a Steinway dealer in your community or near you through whom you may purchase a new Steinway piano with a small cash deposit, and the balance will be extended over a period of two years. * Used pianos accepted in partial exchange.

Prices: $875 and up

Plus transportation

STEINWAY & SONS, STEINWAY HALL
109 East Fourteenth Street, New York

ATWATER KENT RADIO



CONFIDENCE characterizes the attitude of every ATWATER KENT owner—Dependable performance, day in and day out, has brought to him a new realization of radio efficiency; a new meaning of the words Selectivity, Sensitiveness, Simplicity and Ease of operation. *Interesting literature on request.*

ATWATER KENT MANUFACTURING COMPANY
4705 Wissahickon Ave., Philadelphia, Pa.

THINK WHAT IS BACK OF IT

FREE

This wonderful 56-page book

THE handsome specimen book as shown at the right has been especially prepared to give you some idea of the absorbing interest and practical value of the Encyclopædia Britannica. It tells all about the Britannica in the New Form, reproduces a number of specimen pages (many in color), explains the easy terms of payment, and tells the fascinating story of how our experts made possible an amazing reduction in price. 56 pages of interesting, instructive reading. Free on request if you mail the coupon.

While this offer lasts!

The Encyclopaedia Britannica *at a saving of 46%!*

ARE you one of tens of thousands who have always desired to own the famous Encyclopædia Britannica?

Then take this opportunity to learn what this great work would mean to you, and how you can obtain a set at a saving of 46 per cent, payable at your convenience. The specimen book illustrated above—free on request—gives you complete information.

The Britannica in the New Form is the outstanding publishing success of recent years. Two printings of 20,000 sets have already been sold and, at the present rate, the third printing cannot last much longer.

Both here and abroad the New Form has proved to be the most popular issue of this great work ever published. It is impossible to keep pace with the demand.

The Britannica is a library of all human knowledge and achievement. It covers every subject in which men and women are interested—it contains 15,600 illustrations, 33,000 pages, 49,000,000 words.

The New Form is the latest revised edition, complete and unabridged. Word for word, line for line, its contents are identical with those of the famous Cambridge issue that sells for nearly twice as much.

Consider what it would mean to you to have the Britannica in your home, within reach, ready to turn to for authentic information or to read and enjoy during leisure hours.

You owe it to yourself to learn the particulars of this wonderful offer and you can do this by sending for our 56-page specimen book. This does not obligate you in any way. It will take you but a minute to fill out the coupon and mail it.

Mail this coupon now! →

THE ENCYCLOPÆDIA BRITANNICA, INC.
342 Madison Avenue, New York NGM 2-B

Please send me, without cost or obligation, a copy of your 56-page book describing the Encyclopædia Britannica in the New Form at the special 46 per cent saving, and full details of your easy plan of payment.

Name.....

Address.....

.....

MAJESTIC
The World's Largest Ship

THERE are 106 other ships in the fleets of the White Star and associated lines and they offer 236 transatlantic passenger sailings for 1925, providing a complete ocean service to every European country directly or through convenient connections. Just the facilities that you want —whether a luxurious suite on the *Majestic* or a comfortable accommodation in the new Tourist Third Cabin.

WHITE STAR LINE

ATLANTIC TRANSPORT LINE · RED STAR LINE

INTERNATIONAL MERCANTILE MARINE COMPANY

No. 1 Broadway, New York; 127 South State Street, Chicago; 460 Market Street, San Francisco, Company's offices elsewhere or any authorized steamship agent.

FACTS ABOUT A FAMOUS FAMILY

What does your banker think of the motor car?

A BANKER writes: "The automobile is the greatest contribution of the age to human happiness, and as such is a utility of first importance."

And another: "I have often advised customers to buy motor cars, feeling the increased stimulation and opportunity of observation would enable them to earn amounts equal to the cost of their cars.

"A man who works six days a week and spends the seventh on his own doorstep certainly will not pick up any dimes in the great thoroughfares of life."

Over 2000 banks are cooperating with the General Motors Acceptance Corporation, a member of the General Motors family, so that you may buy a General Motors car out of income, just as you buy a home.

GENERAL MOTORS

BUICK · CADILLAC · CHEVROLET · OAKLAND
OLDSMOBILE · GMC TRUCKS

General Motors cars, trucks and Delco-Light products may be purchased on the *GMAC* Payment Plan.
Insurance service is furnished by General Exchange Corporation

The Recent Ice Storm in the St. Louis Area

Ice Storm Wrecks Thousands of Trees

In this tragic emergency, The Davey Tree Expert Company assembled in the stricken area one hundred of its trained Tree Surgeons. Within seventy-two hours these skilled and responsible men were giving first-aid treatment.

Many trees were so badly damaged that nothing could be done. But in the majority of cases the trees, although marred, will be saved by skilful handling.

Every man sent to the St. Louis area is a regular employee; under no circumstances, however great the emergency, does the Davey Company use untrained or picked-up labor. The Davey field force numbers approximately 500 carefully selected, thoroughly trained, properly schooled Tree Surgeons—*real* experts.

Davey Tree Surgeons are local to you—anywhere between Boston and Kansas City, between Canada and the Gulf. Write or wire Kent, Ohio.

THE DAVEY TREE EXPERT CO., INC.
130 City Bank Building, Kent, Ohio.

Attach this coupon to your letterhead and mail today

THE DAVEY TREE EXPERT CO., INC.,
130 City Bank Bldg.
Kent, Ohio.

Reg. U. S. Pat. Off.

Gentlemen: Without cost or obligation on my part, please have your local representative examine my trees and advise me ▬ to their condition and needs.

Typical of Old England
On the London and North Eastern Railway

A magic thread through Britain

It winds out of London town—this magic "thread"—along a pleasant English countryside teeming with literary and historic traditions; through the wooded hills and green meadows of Middlesex and Hertfordshire; past the land of the Pilgrims, where the American nation was conceived; skirting the enchanted River Ouse; to the famous Norfolk Broads, the Yorkshire Moors and Dales, the Northumberland Fells; into the wild beauty of the Scottish Highlands.

It's the route of the London & North Eastern Railway—"The Cathedral Line"—track of the "Flying Scotsman", shortest and swiftest to Scotland.

If you're going abroad, plan your British tour to follow the magic "thread"—and plan now. Save time and money, and still see everything that matters. Concentrate on the Eastern Counties—the historic side of Britain.

The London & North Eastern Railway's Royal Mail Routes, via Harwich, form the ideal link between England and Continental Europe.

For illustrated booklets and details of special tours for American visitors, communicate with

H. J. KETCHAM, GENERAL AGENT
London & North Eastern Railway
311 Fifth Avenue, New York

LONDON AND NORTH EASTERN RAILWAY

OF ENGLAND AND SCOTLAND

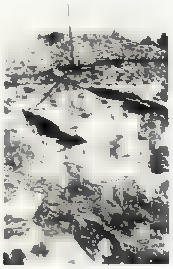
Rock of Ages Granite Assures You Eternal Remembrance

Love and gratitude — these express the nobility of purpose symbolized by a memorial of imperishable Rock of Ages granite. Smooth of grain, flawless, tough, Rock of Ages is unsurpassed for beauty and permanence. It takes a brilliant polish, which sets off its natural blue-gray color in striking manner.

Choose in your own lifetime your family memorial, and let it be of Rock of Ages granite.

Request a Certificate of Perfection when ordering from your local dealer. It is your guarantee of genuine Rock of Ages stock, and is your protection against inferior granite. There is no substitute.

Let us send you Booklet "E"



A Glimpse of the Rock of Ages Quarry

BOUTWELL, MILNE & VARNUM COMPANY
MONTPELIER, VERMONT
QUARRIERS—ROCK OF AGES GRANITE
QUARRIES AT BARRE, VERMONT

South America

KNOW South America! Visit its large and fascinating cities. Become acquainted with its commercial opportunities and rare natural resources. Enjoy the charming climate and inspiring scenery of its great countries.

Send the Coupon

Find out about the many comforts of the voyage on your own American ships to this vast and amazing continent. Mail the coupon now for interesting, illustrated booklets. Rio is less than 12 days from New York by the four white sister ships of the Pan America Line—the finest and fastest in the South American service. Regular fortnightly sailings to Rio de Janeiro, Santos, Montevideo and Buenos Aires. Clip the coupon today and get *facts*.

To U. S. SHIPPING BOARD
Infor. Desk 1553 Washington, D.C.

Please send me illustrated booklets about South America and the U. S. Government ships of the Pan America Line.

If I go date will be about _____

There will be _____ in my party.

Name _____

Address _____

Town _____ State _____

Pan America Line

Operated for
U. S. SHIPPING BOARD
by Munson Steamship Line
Managing Operators
67 Wall Street
New York City
or your local agent

Photo © Haynes **Emigrant Peak, Gardiner**

Our Own—The American Rockies

FROM Northern Pacific train windows Scenic America goes by in review: Rivers, Lakes, Woods, Farms, Dakota Badlands, Cowboys, Ranches, Foot Hills, The Rockies, The Cascades, The Olympics, Puget Sound and the Pacific Ocean.

Traveling to Yellowstone Park this summer? Or to the Pacific Northwest?

Make your reservations on the

North Coast Limited

One of America's Fine Trains

Observation cars, valet, barber, bath, New Pullman Sleepers of the very latest design and famously good dining car service. Your vacation—our specialty. Let us send you literature—

Northern Pacific Ry

"2000 Miles of Startling Beauty"

MY VACATION TRIP

Name _____

Address _____

Books ■■ trips I ■■■ interested in (√)		Round Trip Fare from Chicago
☐ Yellowstone Park		■ ■■■
☐ Pacific Northwest	Portland, Seattle, Tacoma	86.00
☐ Rainier Park	Portland, Seattle, Tacoma	86.00
☐ Alaska (Skagway)		176.00
☐ Rocky Mountains (Helena—Butte)		59.00

Mail coupon to A. B. Smith, P.T.M.,
941 Northern Pacific Building, St. Paul, Minn.

NELSON'S

The University for all Men

***"The best and most important part of every man's education is that which he gives himself"*—Gibbon**

Clear vision comes from clear thinking and clear thinking can come only from accurate knowledge and dependable information. Vague and inaccurate information is worse than none at all. Clear thinking based upon dependable facts marks the successful man—the man of decision and action. Nelson's Loose-Leaf Encyclopaedia is a Complete Reference Library, accurate, concise, authoritative. It covers the whole field of knowledge from the dawn of civilization to the present day. Fifteen minutes a day with Nelson's will enable you to think clearly, to decide promptly, to be a leader among men.

GET YOUR FACTS FROM NELSON'S

Every subject on which man would be informed is changing constantly. Nine times out of ten, the information you want is of current issue—a topic of to-day. All Encyclopaedias except Nelson's are deficient in this important and essential thing. The information which is obsolete is worse than none at all. You do not use a City Directory that is two years old. Why use an Encyclopaedia that is five or ten years old? Every six months all subscribers to NELSON'S receive their Renewal Pages—250 pages or more—between 500 and 700 pages each year. These include over 2,000 changes each year and keep NELSON'S perpetually accurate and down to date.

This Wonderful Encyclopaedia

brings you the knowledge of the centuries. It stands ready to answer any conceivable question in any field of knowledge. NELSON'S TREATS UPWARDS OF 1,000,000 TOPICS, has 500 maps in color and black and white, and 7,000 illustrations to clarify the text, including text cuts, colored plates, photographs, charts, etc.

An International Editorial Staff

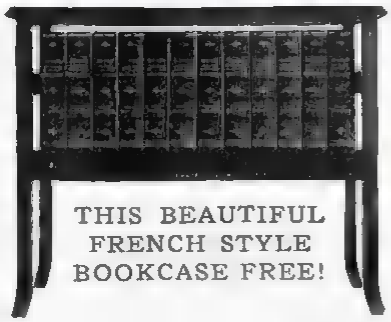
NELSON'S PERPETUAL LOOSE-LEAF ENCYCLOPAEDIA—*the Great American Reference Work*—is published by one of the oldest and largest International Publishing Houses. The Editor-in-Chief is John H. Finley, LL. D., L. H. D., Editor, New York Times; the Canadian Editor is Sir Robert Falconer, K. C. M. G., D. Litt., LL. D., President of the University of Toronto; the European Editor is Sir Henry Newbolt. Its staff of contributors includes men and women foremost in scientific, professional, and public life, who are themselves making history.

Free Educational Reading Courses

Nelson's Reading and Study Courses in CIVICS AND LAW, CIVICS AND POLITICS, LAW AND PROCEDURE, UNITED STATES HISTORY, BUSINESS ECONOMICS, NATURE STUDY, AGRICULTURE AND HOME ECONOMICS are declared by educational authorities to be equal to a college course and training in each of these departments.

Nelson's Free Research Bureau

FOR SCIENTIFIC REPORTS AND SPECIAL INFORMATION AND CORRESPONDENCE. Every purchaser of Nelson's is entitled to free membership in this Bureau. If at any time you are in doubt on any subject, old or new, write to this Bureau with the positive assurance that you will promptly receive the latest obtainable and most dependable information.



THIS BEAUTIFUL FRENCH STYLE BOOKCASE FREE!

THOMAS NELSON & SONS

Publishers for 127 Years

Originators of the Loose-Leaf Reference System

Dept. Nat'l Geog. 381 Fourth Ave., New York City

77 Wellington St., W., Toronto, Canada.

Please send me your portfolio of sample pages, beautifully illustrated, containing color maps, plates and photographs, and full information how, by easy monthly payments, I can own Nelson's Perpetual Loose-Leaf Encyclopaedia and receive FREE Bookcase and membership in Nelson's Research Service Bureau for Special Information. This must incur no obligation whatever on my part.

Name_____

Address_____

City_____ State_____

(Adv. Copyright, 1925, by Thomas Nelson & Sons.)

A New Hotel in Scotland

THE MEETING of the mountain and the plain makes the prettiest country in any land; and makes the best golf, too. Gleneagles golf is made that way. On the King's Course going out, every time you lift your head (mind you don't lift it too soon) the outline of the Grampian Mountains meets your eye (after the follow through, please!), and Gleneagles itself tumbles about among the foothills of that noble mountain range. But beside the Grampians there's another outline to be seen from Gleneagles, more hospitable than a mountain range and more human in its appeal. It is the outline of the Gleneagles Hotel.

GLENEAGLES is a new hotel for Scotland, a new kind of hotel altogether. It is one of those great hotels, rare in England or Scotland, but not so rare in America or the south of France, that have made travel a luxury and a delight. Gleneagles is one of those great twentieth-century palaces that, whether in elegance or taste or silent, watchful service, outshine the duke in his castle, the baron in his hall.

Gleneagles

ACCOMMODATION *should be reserved early. Apply to Resident Manager, Gleneagles Hotel, Perthshire. The Hotel is under the direction of Mr. Arthur Towle, London Midland and Scottish Railway, St. Pancras, London.*

"Who could resist this priceless book!"

"PRICELESS because the genius of Shakespeare is priceless. To have *all* his marvelous works in this one convenient volume is indeed a rare opportunity. It really did not seem possible, but I have found it all and more than represented."

This is typical of the enthusiastic comments this remarkable volume has prompted. When the first copies were imported from England, a veritable sensation was created. Never before had such a book been seen. Scarcely an inch thick, it contains 1,352 pages—the complete works of Shakespeare!

In this one superb volume—the full glory of Shakespeare's immortal genius

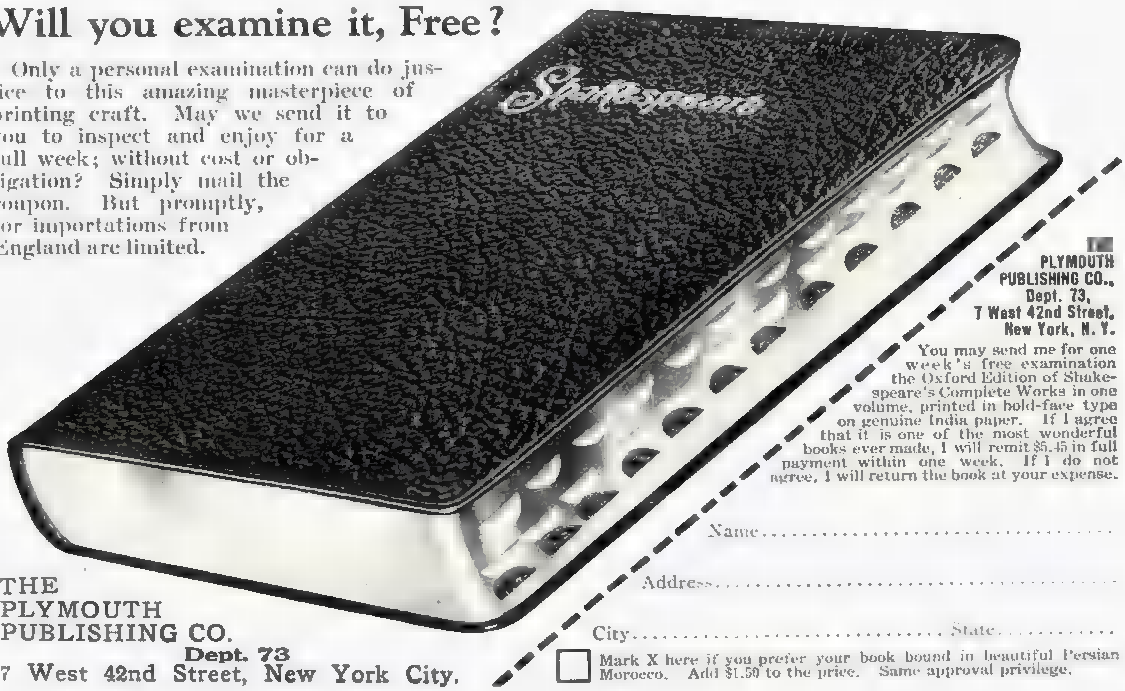
Every play, every poem, every sonnet in this single volume—word for word as they appear in the authentic First Folio in the Bodleian Library at Oxford University. Printed in *large, clear* type on genuine Oxford India paper—the marvel of modern paper-making, so finely woven as to be almost without weight, yet far stronger than ordinary paper, white and opaque.

De Luxe binding; richly grained, limp, maroon covers, gold intaglio title on front cover and backstrap. Full gold edged pages with thumb index of titles. A volume of sumptuous beauty, the supreme achievement of the famous Oxford University Press—not to be confused with inferior imitations.

Yet the price is incredibly low for the complete works of Shakespeare in such luxurious, single-volume form.

Will you examine it, Free?

Only a personal examination can do justice to this amazing masterpiece of printing craft. May we send it to you to inspect and enjoy for a full week; without cost or obligation? Simply mail the coupon. But promptly, for importations from England are limited.



THE
PLYMOUTH
PUBLISHING CO.
Dept. 73
7 West 42nd Street, New York City.

PLYMOUTH
PUBLISHING CO.,
Dept. 73,
7 West 42nd Street,
New York, N. Y.

You may send me for one week's free examination the Oxford Edition of Shakespeare's Complete Works in one volume, printed in bold-face type on genuine India paper. If I agree that it is one of the most wonderful books ever made, I will remit $5.45 in full payment within one week. If I do not agree, I will return the book at your expense.

Name.....

Address.....

City..... State.....

☐ Mark X here if you prefer your book bound in beautiful Persian Morocco. Add $1.50 to the price. Same approval privilege.

Hawaii

for a new - Summer Holiday

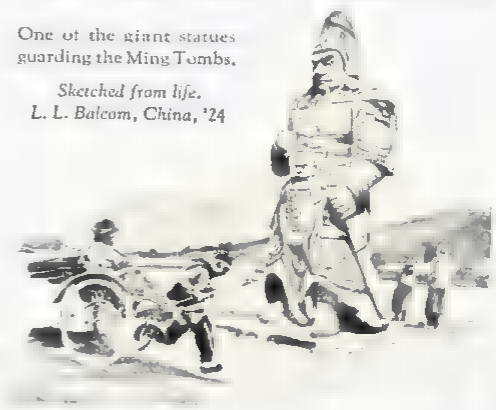
Let your lifelong dream come true this summer. It's so easy. Five to eight enjoyable days to Hawaii on an ocean liner direct from San Francisco, Los Angeles, Seattle, Vancouver or Victoria, B. C.,—and you're amid gorgeous flowering trees, tropic fruits, purple mountains and shining coral beaches.

Coolness will tempt you in July and August—and Hawaii is deliciously cool then. Mercury rarely goes above 85° in Honolulu.

Somewhere between $300 and $400 pays for the round trip from the Pacific Coast and all incidental expense including visit to the wonders of Hawaii National Park. This gives you a week or two in the Islands. But stay longer; hotel, apartment and cottage rates are reasonable. Remember, Hawaii is a part of the U. S. A.

Ask nearest railway, steamship or travel agent for colored, illustrated brochure on Hawaii, or—

212 Monadnock Building, San Francisco, or
341 Fort Street, Honolulu, Hawaii, U. S. A.



One of the giant statues guarding the Ming Tombs.

Sketched from life.
L. L. Balcom, China, '24

An Ideal Way to the Orient

A TRIP to the Orient over the California Orient Line's Sunshine Belt via Honolulu is a voyage of delight—the sum of all your travel dreams come true. Learn about this ideal and economical way to go. Send the coupon now for illustrated booklets. Get the facts about the travel comforts and conveniences that you will enjoy on your own American ships sailing fortnightly from San Francisco to Honolulu, Yokohama, Kobe, Shanghai, Hong Kong and Manila. A stop of approximately 10 daylight hours is made at Honolulu by all of these modern and swift U. S. Government vessels:

Pres. Lincoln — Pres. Wilson
Pres. Cleveland — Pres. Taft
Pres. Pierce

Mail this Coupon

To U. S. Shipping Board
Infor. Div. 1553 Washington, D. C.

Please send, without obligation, illustrated booklets giving all the facts about a trip to the Orient over the California Orient Line's Sunshine Belt.

If I go date will be about .....

There will be ..... persons in my party.

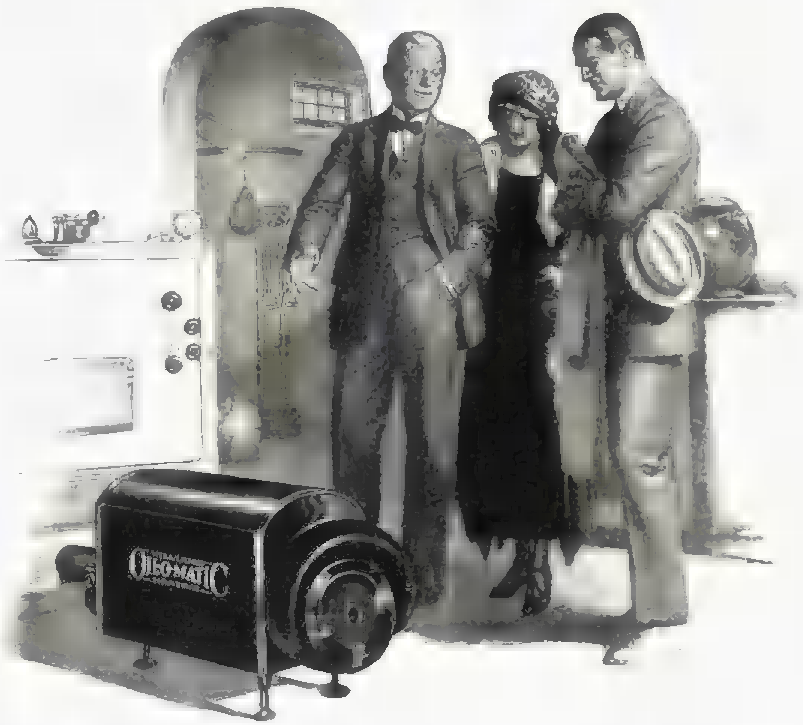
Name .....

Address .....

.....

California Orient Line

Operated for
U. S. SHIPPING BOARD
by Pacific Mail S. S. Co.
Managing Operators
10 Hanover Square, New York City
508 California St., San Francisco, Cal.
503 So. Spring St., Los Angeles, Cal.
or local Railroad and Steamship Agents



Four New Facts About Oil Heating

THIS will give you a new conception of oil burners. When you read this you will never be content with any other way of heating your home. Over 20,000 people now have an Oil-O-Matic in their homes. Not one single one would give it up. Not because any way of heating with oil is better than with coal, but because this way is the right way.

We began with oil

Over six years ago, before we even thought of what form our oil burner should take, we studied oil. It was found that four vital principles were being disregarded. They explained the difficulties others were having in trying to burn oil. They are the now famous four natural laws.

Before we allowed one Oil-O-Matic to be installed in any home, we tested it out at our own expense. It cost us in all $250,000. But we proved it was right. Now with six winters' experience behind us and over 20,000 installations, leading engineers agree that Oil-O-Matic is the fully developed and perfected oil burner.

The four famous laws

The first law says that oil must be broken up into a fine mist. So fine it will float like a fog. All other ways violate this law. After the oil is broken up, the second law demands that it be burned before it touches anything. Carbon and soot will surely result otherwise. So no plates, pots, chamber or any part of an oil burner should be inside your furnace or boiler.

According to the third law, the amount of air that is mixed with the oil must be exact. Naturally this cannot be left to someone's opening or closing a damper. The oil burner itself must supply the correct amount of air.

The fourth law is just as important. Oil cannot burn perfectly without reflected heat. So unless the firebox of your heating plant is lined with brick, it is impossible to get perfect combustion.

Note this exclusive feature

We originated and perfected five years ago the Williams Thermal Safety Control. This positive device watches over your entire plant. Oil-O-Matic can't run at all unless it runs right. Not a drop of oil can flow. The motor is stopped. Ignition is shut off.

Easy terms—Guaranteed

So this perfected way, approved by leading combustion engineers, ends all doubt. Now no one need be without the comforts of oil heating. Oil-O-Matic can be installed in any good heating plant. Steam, hot water, vapor, hot air.

The men who install and service your Oil-O-Matic are all trained men. Most of them are graduates of the Williams Institute of Heat Research. They have experience, facilities, organization and financial responsibility. They are backed by the largest producers of automatic oil burners in the world.

They will be glad to offer you terms if you want them.

Get the facts now. See it demonstrated. Send the coupon for a copy of "New Facts About Oil Heating." It will answer every question about this proved scientific way of oil heating.

Mail This for Free Book!

Williams Oil-O-Matic Heating Corp.,
Bloomington, Ill. NG 86

Please send me at once your booklet, "New Facts About Oil Heating," giving full information about the Oil-O-Matic, and special basement plans for new homes.

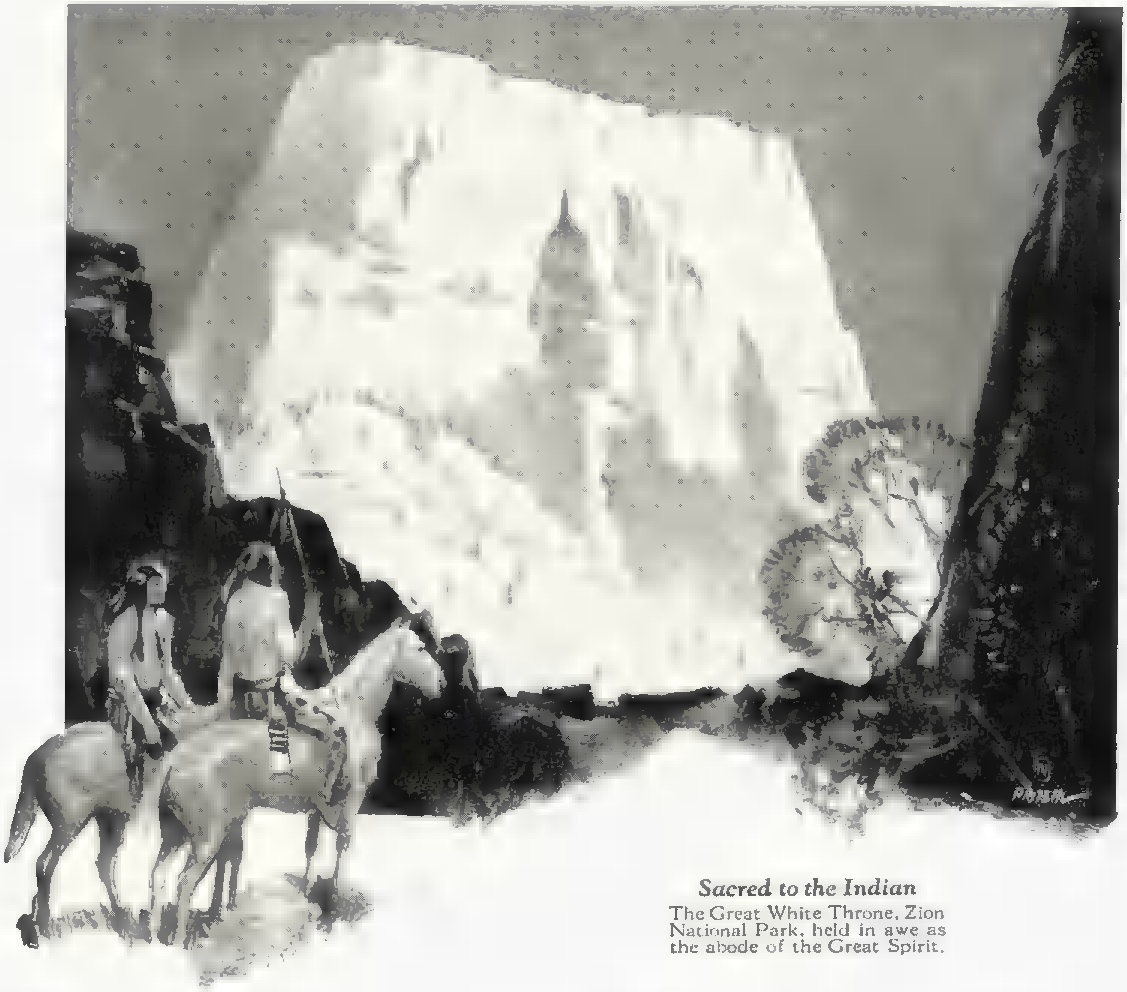
Name .....

Address .....

Our Heating Plant is Steam☐ Hot Water☐ Vapor☐ Hot Air☐

WILLIAMS
OIL-O-MATIC
HEATING

WILLIAMS OIL-O-MATIC HEATING CORPORATION
Main Office and Plant: Bloomington, Illinois
Largest Producers of Automatic Oil Burners in the World • Authorized Dealers Everywhere



Sacred to the Indian
The Great White Throne, Zion National Park, held in awe as the abode of the Great Spirit.

The long hidden splendors of Zion National Park, Bryce Canyon and Cedar Breaks are yours

Here, in Southern Utah, are flaming canyons and jewelled amphitheatres painted in incredible colors by sun magic and the wizardry of wind and water. Here, too, is a lingering frontier of empurpled distances with quaint Mormon villages, Indians, wild horses, extinct volcanoes and mysterious cliff dwellings.

Season May 15 to October 15

Send For Free Booklet In Natural Colors
It is the only way we can tell you of the unbelievable coloring of this unique land; also contains complete practical information

Inaccessible a few years ago except to a few adventurous Americans, the Union Pacific has now made it possible to see it in comfort by providing sleeping car service, regular motor tours and the latest style of National Park lodges and dining rooms.

The trip is a memorable vacation adventure in itself, or may be made in connection with tours to Salt Lake City, Yellowstone National Park or the Pacific Coast.

Ask about low round trip summer fares.

Address nearest Union Pacific Representative or General Passenger Agent at Omaha, Neb. :: Salt Lake City, Utah :: Portland, Ore. :: Los Angeles, Cal.

Union Pacific

California

Where will your Children be at your age?

"The Two Helens" of San Francisco Bay

Miss Helen Wills (with the famous sunshield), Olympic and national women's tennis champion, and Miss Helen Jacobs, national girls' tennis champion.

ARE you hedged in, where you are?

Are you looking for the better opportunity to succeed, for yourself and your children?

California, with millions of prosperous people who came from other communities, has room for millions more, in town and country. Her cities in and near the San Francisco Bay district hold the lowest infant mortality rate in the United States. Her boys and girls play out of doors the year 'round—they furnished more members to the latest Olympic teams than any other state, because, in California, every sport belongs to all the people, and is played all through the year.

So it is throughout California's magnificent Central Valley. You will find swimming pools and golf courses in tiny towns, or even out in the country, and everywhere willingness to work hard when work is to be done and to play with equal enthusiasm when opportunity offers. Life *is* better here for you and your family, in every way.

San Francisco offers much

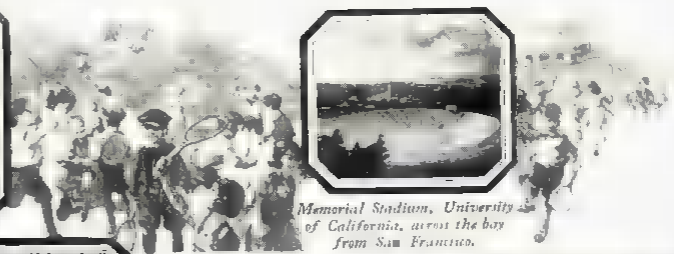
In San Francisco, close to great universities, thousands of new families each year find exceptional cultural opportunities and corresponding advantages in getting ahead financially. A symphony concert seat costs twenty-five cents. The public schools are increasing at the rate of one new school a month. Increasing population provides increasing industrial opportunities for manufacturer and employe.

Write for this booklet

Only a moderate nest-egg is needed in order to take advantage of California's opportunities. "California, Where Life is Better" is an illustrated free booklet that tells you all about them. CALIFORNIANS INC., a non-profit organization of citizens interested in the sound development of the State, will send it to you on request. Write for it today. Fill in the coupon and mail it to CALIFORNIANS INC., San Francisco, California.

A high school typical of many others suburban to San Francisco.

San Francisco —the Golden Gateway to California



Memorial Stadium, University of California, across the bay from San Francisco.

They came, they saw, they stayed

—How thousands of newcomers feel about life in California.

"One of our five children, often troubled with malaria, gained 21 pounds in three months, and we all look and feel different.

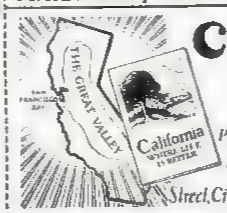
California, by reason of her wonderful sunny climate, is the ideal place for the intensive little farm."—J. H., LODI

"I have a wife and family of two, one a Californian born—and I can say that nowhere in my travels have I seen healthier children.

The opportunities California offers a man willing to work cannot be found elsewhere." —G. G., MISSION SAN JOSE

Memorial Chapel, Stanford University. One hour from San Francisco.

MAIL *this coupon for* FREE BOOKLET *about life in California*



Californians Inc

Headquarters
SAN FRANCISCO

140 MONTGOMERY STREET, ROOM 500

Please send me "California, Where Life is Better"

Name _____

Street, City & State _____

The Spirit of France Begins when you pass Sandy Hook

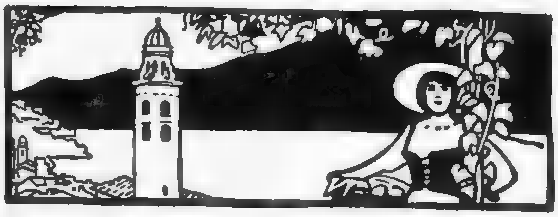
IF you could take a little grey cobble-stoned corner of old Tours, with a church, and a cafe, and a market, and a dog asleep in the sun—if you could carry it through the air to America, away from its chateau country and its shining and placid Loire—would you have France?

No. France isn't brick and stone. It's alive—human. France is French people, living — laughing — shaping inanimate things to the French pattern. . . .That's why French Line boats are France afloat. When you walk up the gangplank, you're in France.

You can book passage for one hundred and forty dollars on the big, one-cabin liners, French as France itself. You can even make a round trip for one hundred and sixty-two dollars, tourist class, with individual cabins. Plenty of deck space, salons and smoking rooms. . . . Write for booklet.

French Line

Compagnie Générale Transatlantique, 19 State Street, New York
Agencies in Principal Cities of Europe and the United States



SWITZERLAND

There is only **one**—

That happy, beautiful, majestic little Republic of the Alps, which for centuries has been the goal of millions of tourists from every part of the world.

A tour of Switzerland is a most economical vacation. We are constantly arranging for American tourists most satisfying itineraries, one of the many advantages of which is that they *avoid all rush and cost comparatively little.*

Let us show you how to see Switzerland comfortably and well—supply you with numerous illustrated booklets, maps, etc., and make all arrangements for your tour.

Wouldn't you like to go to Geneva, the world's peace capital, ever attractive for its beauty, wealth and intellect; to enjoy the delights of distinguished Lausanne-Ouchy, an international center for education, and the mingled city and peasant life in Berne, the quaintest and most charming diplomatic city of Europe?

You will travel in luxuriously equipped electric trains—via the Loetschberg route, for instance—to the kaleidoscopic Bernese Oberland; and be a part of the fascinating life at its many gay resorts, particularly at the garden spots of Thun, Kandersteg-Gstaad and Interlaken. The glacier beauties and pastoral life at Grindelwald and Wengen, the thrills of the Jungfrau Railway to the top of the world, with the many side trips above cloudland to the Schynige Platte and Murren, will last forever.

And beautiful Lucerne, where Swiss history was made hundreds of years ago—with the fascinating country about.

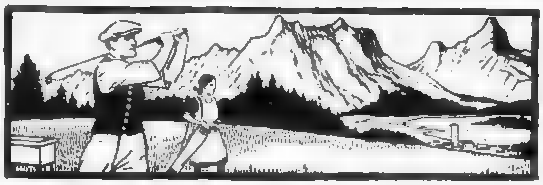
Or the Grisons, with its snow-capped peaks and blossoming valleys and its famous St. Moritz.

All Sports in perfection and inexhaustible—Wonderful Golf everywhere.

You will never forget a single minute of days spent in Switzerland.

Write for Swiss travel literature; address

SWISS FEDERAL RAILROADS
241 Fifth Avenue, New York



Gumwood for solid parts gives extra value to the use of combinations of other woods for veneers

The pattern in figured gumwood obeys no known law. It is distinctive, characteristic and individual—always a fascinating study in Nature's handicraft

A gracefully proportioned door, exterior and interior woodwork of American Gumwood, and good furniture in which this dependable wood is used, contribute to the charm of a well appointed home

A Wood that brings Good Furniture within reach

MORE actual value may be put into the design and craftsmanship of the furniture which adorns your home, when American Gumwood, a cabinet hardwood of surpassing quality and texture, is suitably used in the construction of solid parts.

This native wood permits the utmost in appearance, in the artistic treatment of other woods used for ornamental surfaces, without sacrifice of value or beauty. It brings good furniture within reach of the average purse. Ask leading retail furniture dealers.

The Rich Harmony of Paneled Walls

For those who love the dignified atmosphere of a paneled interior in living room, dining room, or library, the soft delicate coloring of American Gumwood offers rare opportunity. Either plain grain, or figured in the fantastic yet subdued patterns of Nature, the individuality of gumwood enhances the appointments of a modern room.

Color, character, design and finish—the best features in Gumwood liberally used

In our booklet you will find illustrations in full colors suggesting the decorative possibilities of this wonderful wood, also a brief story of the beautiful and useful gumwood tree, one of the glories of our southern forests.

Mail this coupon for your free copy

GUMWOOD SERVICE BUREAU of the HARDWOOD MFRS. INSTITUTE
Bank of Commerce Bldg.
Memphis, Tenn.
Please send me your booklet—"Beautiful American Gumwood"

Name .....

Address .....

City ..... State .....

If you wish more information, write The Gumwood Service Bureau of the Hardwood Manufacturers Institute, Memphis, Tennessee, which can serve you in many practical ways, without obligation

A Summer Holiday in EUROPE

costs no more than one at home

The world-famous old sights and scenes of which one never grows weary—why not spend your vacation among them? Let Cook's help you plan your time to get the greatest possible pleasure for your money. Special itineraries for Individuals, Families, and small parties. Escorted Tours at frequent intervals. Spring Departures via Mediterranean:

March 21, "Conte Rosso"
April 11, "Conte Verde"
May 9th, "Duilio"

Later sailings throughout Spring and Summer seasons via North Atlantic and Mediterranean. Complete series of tours of varying lengths.

Special Cruise Tours to Norway, North Cape, and Northern Capitals.

Annual Summer Cruise
around the
MEDITERRANEAN
on the **TUSCANIA**
of the Cunard and Anchor Lines
July 4, to Sept. 3
From New York back to New York
A Magnificent Itinerary
Limited Membership
Popular Fares

THOS. COOK & SON
NEW YORK
Boston Philadelphia
Chicago St. Louis
San Francisco
Los Angeles Toronto
Montreal
Vancouver

here's a book that tells about *Vacations in "The Charmed Land"*

NAME YOUR IDEAL VACATION. Do you long for the peace of snow-mantled ranges where "the mountains kiss high-heaven"; or do you crave the unresting sea, alive with mystery; or eternal hills, with "waterfalls that laugh with silver laughter"? Do you want sea bathing, yachting, golf on famous fairways, motoring over paved scenic roads, fishing, hiking?

Write, *now*, for a handsome, 40-page book, "Seattle and The Charmed Land," and learn about the summer vacation wonderland that radiates from metropolitan Seattle, gateway to the Orient and Alaska. A vacation full of interest for *all the family*, young or old.

Learn how to see Seattle and "The Charmed Land" in ten days; see pictured bits of this magic summer playland where 62 degrees is the average temperature; where you can lunch at the seashore and dine, the same day, amid the snows of majestic Mount Rainier. Cool, green, ever-changing, ever new, always interesting, never stale, this is the vacation spot supreme.

[When planning ANY trip to the Pacific Coast, any time, insist that your ticket agent route you via SEATTLE. Liberal stop-overs FREE! Chamber of Commerce, 104 Chamber of Commerce Building, Seattle, Washington.]

Seattle

Metropolis of
The Pacific Northwest

PACIFIC NORTHWEST

Old Faithful Geyser Yellowstone National Park

In Rainier National Park

St. Mary's Lake Glacier National Park

Columbia River Highway

Every kind of sport

Fisherman's paradise!

The great American Summerland is calling *you*

Climb aboard a train this summer—*headed west!* Let the world of every day roll away behind you. Then step off into a wonderland like *this:*

Mountain grandeur that equals the Alps. Sunny beaches down beside the blue Pacific. Flowers overrunning everything. Cool, sparkling days and refreshing nights—a perfect summer climate. Sports of every kind—golf, motoring, mountain climbing, surf bathing, fishing, boating. Splendid cities and excellent hotels.

Come this summer. Come and know the thrill of these great scenic features:

Yellowstone National Park
Glacier National Park
Rainier National Park
Crater Lake National Park
The Alaskan Tour

You can visit Yellowstone or Glacier on the way out or back. You can include the Puget Sound country, the famous Columbia River Drive, the Cody Road, the Oregon beaches, the Spokane country—or any of hundreds of other fascinating vacation haunts.

Low round-trip excursion rates this summer. Through trains providing service which anticipates your every travel wish. You can go one way, return another. (Through scenic Colorado at no extra transportation cost.) Stop off where you wish along the way.

Write for free book

Send the coupon now for the free illustrated book, "The American Wonderland."

The Chicago Burlington & Quincy R.R.
The Northern Pacific Ry.
The Great Northern Ry.

Burlington Route

MAIL THIS COUPON

Travel Bureau, Dept. 27-D
Burlington Railroad Building
Chicago, Illinois

Please send me without charge the illustrated book, "The American Wonderland."

Name .....

Address .....

CUNARD means EXCELLENCE

The CUNARD CATALOGUE of Routes & Rates to Europe

The World's Fastest Service De Luxe

AQUITANIA BERENGARIA MAURETANIA

Weekly from New York to Cherbourg and Southampton

1st Class $255 up 2nd Class $147.50 up 3rd Class $90 up

Liverpool Service

By the five superb new 20,000 ton oil-burners

CARINTHIA FRANCONIA LACONIA SAMARIA SCYTHIA

Weekly from New York (Boston) to Cobh—Liverpool

1st Class $198 up 2nd Class $135 up 3rd Class $87.50 up

Anchor Line—Glasgow Service

By the five great oil-burning new sister-ships

TRANSYLVANIA CALEDONIA CALIFORNIA

TUSCANIA CAMERONIA

Weekly from New York to Londonderry—Glasgow

1st Class $180 up 2nd Class $132.50 up 3rd Class $85 up

Cabin Steamers

CARONIA CARMANIA AURANIA LANCASTRIA

COLUMBIA ASSYRIA

From New York to Cherbourg and London;—to Cobh and Liverpool;—to Londonderry and Glasgow

Cabin $130 up 3rd Class $82.50 up

Cunard Vacation Specials

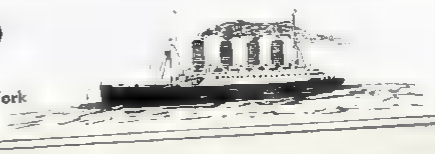
(Remodeled Third Cabin)

Transatlantic Round-Trip Fare $155 up

CUNARD and **ANCHOR** *Lines*

25 Broadway New York

or Branches and Agencies



HARTMANN
CUSHION TOP
WARDROBE
TRUNKS

HARTMANN TRUNKS

BE SURE THE HARTMANN RED ✂ IS ON THE TRUNK YOU BUY

EVERY possible device for ease of operation, convenience and apparel care—they're all in a Hartmann Trunk. But this trunk is not sold on the strength of its visible features—the things you can see. It's sold on the built-in honesty and know-how manufacturing ability that's born of two generations of sincere craftsmen. Sold only by dealers who believe in unusual quality at usual prices.

OVER HALF A MILLION IN USE
QUALITY TELLS

HARTMANN TRUNK COMPANY, *Racine, Wisconsin*
M. Langmuir Manufacturing Company, Ltd., Toronto
Licensed Canadian Manufacturers
J. B. Brooks & Co., Ltd., Great Charles St., Birmingham, Eng.
Licensed Distributors for Great Britain

© 1925, by Hartmann Trunk Co.

Your Trip to EUROPE

Whatever your travel requirements may be the United States Lines can fulfill them exactly.

First Class
cabins and suites provide the utmost in luxury and comfort. Service and cuisine of surpassing excellence.

Economy Trips
in "cabin" and second class mean every comfort at low cost.

Students' Tours
in clean, comfortable and exclusive tourist cabin accommodations (formerly third class) cost only $162 and up for the round trip, New York and Cherbourg.

Holy Year Tours
to Rome, the "Ideal Route" is via Cherbourg. The ships and special religious festivities are detailed in the book, "Holy Year—Rome."

Veterans' Tours
for ex-service men and their families: 30-day all-expense trips to France and the Battlefields.

Mail the coupon below today for literature.

United States Lines

45 Broadway New York City
Canadian Office: 79 Queen St. W., Toronto
or your local agent
Managing Operators for
U. S. SHIPPING BOARD

To U. S. SHIPPING BOARD
Infor. Section 1553 Washington, D. C.

Please send without obligation booklets checked.
☐ "New York to Europe" ☐ Students' Tours
☐ Holy Year Trips ☐ Veterans' Tours
☐ "Economy Trips to Europe"

If I go date will be about _____

Name _____

Address _____

_____

SHORT CUT TO 100% INVESTMENT

MANY investors have found a letter or postcard of inquiry to S. W. STRAUS & CO. to be a short cut to an investment 100% safe and 100% satisfactory. Follow their example. Write today for literature describing sound first mortgage bonds, and ask for

BOOKLET C-1508

S.W. STRAUS & CO.

Established 1882 Investment Bonds Incorporated

STRAUS BUILDING
505 Fifth Avenue
at 40th St.
NEW YORK

STRAUS BUILDING
Michigan Avenue
at Jackson Blvd.
CHICAGO

43 YEARS WITHOUT LOSS TO ANY INVESTOR

© 1925—S. W. S. & Co., Inc.

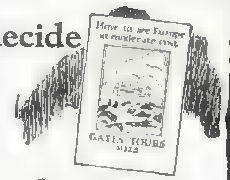
QUALITY AND PERSONAL SERVICE

Are afforded every client, whether the purchase be a simple marker or elaborate memorial.

Write for Booklet "C"

HARRISON GRANITE COMPANY, Inc.
200 Fifth Avenue *Established 1845* New York, N. Y.
Offices: Detroit Chicago Pittsburgh Minneapolis
Works: Barre, Vermont

Before you decide on your European trip—



Be sure to get this Booklet

Thirty years of successful management assure you the utmost in travel economy, comfort and convenience, when you take Gates Tours.

Send for our booklet, "How to see Europe at Moderate Cost". It's FREE.

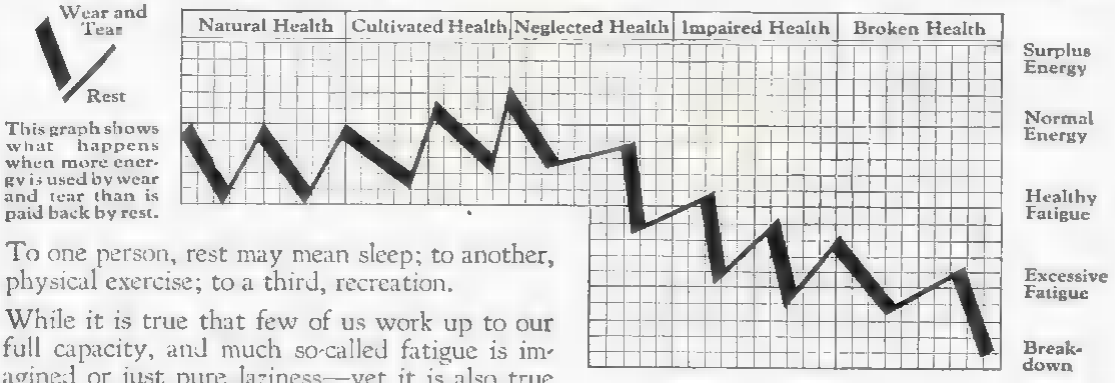
Gates Tours, Dept. A-3, 225-5th Ave., N. Y.

_____

_____

Pay Yourself Back

ARE you tired? It is getting close to the time of year when people talk of feeling "all tired out" and there is much discussion of spring tonics. If you are fatigued and there is nothing organically wrong, the tonic you need and probably the only one you need is the right kind of rest to restore your energy.



This graph shows what happens when more energy is used by wear and tear than is paid back by rest.

To one person, rest may mean sleep; to another, physical exercise; to a third, recreation.

While it is true that few of us work up to our full capacity, and much so-called fatigue is imagined or just pure laziness—yet it is also true that many people work far beyond their strength without realizing the danger.

A certain amount of fatigue after exertion is natural, but excessive fatigue is Nature's safety-device for warning that rest is needed. When you are over-tired, you are more susceptible to disease.

What brings about excessive fatigue? Usually over-strain —either physical or mental—and insufficient rest. Because your activity is both of the body and the mind, and one reacts on the other, your fatigue is a close interlacing of physical and mental weariness. Neither can be relieved separately. Worry, fear, resentment, discontent and depression also cause fatigue. The tired man is often a worried man, and the worried man is usually a tired man.

If hard physical work is making you feel "all in" you may require more hours of sleep than usual even though this may mean temporarily giving up some form of amusement. Perhaps you are not eating the right amount of energy-making food. If you are a mental worker the kind of rest you probably need is exercise in fresh air. If excessive emotion is making you tired, the right kind of recreation probably will help you.

If you tire too easily and if rest does not put you back in good condition, it is more than likely that your health is affected and needs attention.

Workers—take warning! Pay back the energy that you take out of yourself. As the years mount up, longer and longer periods of rest are necessary to make restoration. The "spring tonic" that you need most likely is just a rearrangement of your hours of work, play and rest, and not medicine.

Employers of labor are coming to find that excessive, unnecessary fatigue entails loss of production and loss of earning power. It is said to be a factor in the occurrence of work accidents and is closely related to the cause or aggravation of most cases of severe sickness.

Tests have shown that in connection with certain occupations output can be increased and fatigue decreased by arranging rest periods. Here in the Home Office of the Metropolitan Life Insurance Company, our more than 9000 employees have two rest periods, one in the morning and one in the afternoon. These periods of relaxation have a beneficial effect on both the work and the worker.

There are many hours of the day when men and women do not work. The good use of these hours is as important to health as is the right use of working hours. The Metropolitan has published a booklet, "What Would You Do With 36,000,000 Minutes (70 years of life)?" and another on "Industrial Hygiene." Either or both, of these booklets, will be mailed free to those who ask for them.

HALEY FISKE, *President.*

Published by

METROPOLITAN LIFE INSURANCE COMPANY—NEW YORK

Biggest in the World, More Assets, More Policyholders, More Insurance in force, More new Insurance each year

Whitman's FUSSY PACKAGE

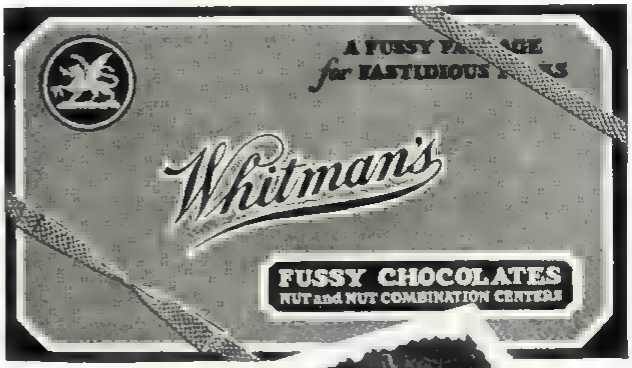
A rich feast in nuts and chocolate

If you prefer *nut centers* and *nut combinations*, you will thank us for directing you to the Fussy Package.

There are no soft centers in the Fussy Package. It is a special assortment for those who like chocolates with hard or "chewey" centers. It is a good example of how Whitman's Chocolates are selected and packed to suit individual tastes. Thousands already know the Fussy Chocolates as their first favorites. Hundreds of thousands more no doubt will welcome them.

Sold only in those selected stores that combine selling fine candy with giving good service.

STEPHEN F. WHITMAN & SON, Inc.
Philadelphia, U. S. A.
New York Chicago San Francisco



The Fussy Package contains chocolate pieces enclosing Almonds, Walnuts, Filberts, Peanuts, Brazil Nuts, Pecans, Double Walnuts, Pecan Caramels, Triple Almonds, Nougat, Nut Bricklets, Nut Brittle, Almond Dates, Double Peanuts, Nougat Caramels and Almond Caramels. Packed in boxes from half pound to five pounds.

VOL. XLVII, No. 3 WASHINGTON MARCH, 1925

THE NATIONAL GEOGRAPHIC MAGAZINE

COPYRIGHT 1925, BY NATIONAL GEOGRAPHIC SOCIETY, WASHINGTON, D. C. IN THE UNITED STATES AND GREAT BRITAIN

LOOKING DOWN ON EUROPE

The Thrills and Advantages of Sight-seeing by Airplane, as Demonstrated on a 6,500-mile Tour Over Commercial Aviation Routes

BY LIEUTENANT J. PARKER VAN ZANDT

U. S. Army Air Service

"NO, SAH!" said Jo, our dusky man of all trades, when I asked him if he had ever flown. "Terrah firmah fo' me! An' de mo' firmah, de less terrah!"

But Jo is behind the times. Five years ago he might have been expressing, in a manner after his own kind, the instinctive sentiments of a large number of our citizens. To-day his position is no longer tenable. Europe has proved it. The remarkable growth of air transportation services on the Continent during the last six years, carrying close to 200,000 passengers and thousands of tons of mail and merchandise between the principal European cities, leaves no reasonable doubt that aircraft, as safe, reliable transportation agents, are here—and here to stay.

It was my good fortune recently to make an investigation of this development for the War Department, and to travel as a passenger some 6,500 miles over Europe on English, French, Rumanian, Polish, German, and Dutch air lines.

I had my initial first-hand report on European airways during our last night out of New York, from the Channel pilot who had come aboard. "Mayor of Dover," the Captain called him, in deference to his position as councilman in the Channel town that lies on the route of the English and French planes flying daily between London and Paris.

A big, burly Scotsman, with a voice like a husky foghorn, he paced the bridge where I had been allowed to remain, and, between instructions to the yeoman at the wheel, told me of air transportation, while the winking silver line of lights of Brighton slipped behind us and the chalk cliffs of the Dover coast shone dimly in the moonlight (see pages 260 and 273).

"It was the mail plane for Paris," said the "Mayor," "that first interested me in aviation. It would go over my head like clockwork every morning, as I walked to the office; I used to listen for it, and it was so regular you could set your watch by it.

RADIO GUIDED PLANES ENVELOPED IN FOG

"What kind of weather it was didn't seem to make any difference; on clear days it might be just a speck in the sky, and then when the fog was on the cliffs, it would roar down the street just above the housetops and disappear in the mist over the harbor. There were times I couldn't see it at all, and only the muffled

Photograph by Lieutenant J. Parker Van Zandt

THE HANDLEY-PAGE PASSENGER TRANSPORT PLANE IN WHICH THE AUTHOR FLEW FROM LONDON TO PARIS

Mechanics are seen checking up the engine and propeller installation before the plane is scheduled to depart. The pilot's and flying mechanic's cockpit may be seen forward of the passenger compartment, in the nose of the plane.

roar of the engines somewhere overhead betrayed its passage.

"I got to wondering how they found their way up there, in such thick weather, and then one day I stumbled on the secret. You see, my boy is pretty keen on radio and we have a set at home for the city concerts. One day, while tuning in, we picked up a pilot somewhere in the air, talking to the flying field at London. That chap was getting reports on his position in the sky and about the weather along the route; thought he ought to be getting near the Channel, but couldn't see it. In two or three minutes Croydon was telling him where he was—over a small fishing village on the French coast.

"Well, sir, that made me a bit interested, I can tell you. I began to read some Air Ministry reports about aviation and they opened my eyes. I found there were regular air lines all over Europe that could take you most anywhere you wanted to go; you can hop into a plane to-morrow in London and fly right across Holland and Germany to Moscow, Russia, or up to Helsingfors, Finland; or you can slip over to Paris and on to Constantinople, or down across the strait to Algeria and Morocco.

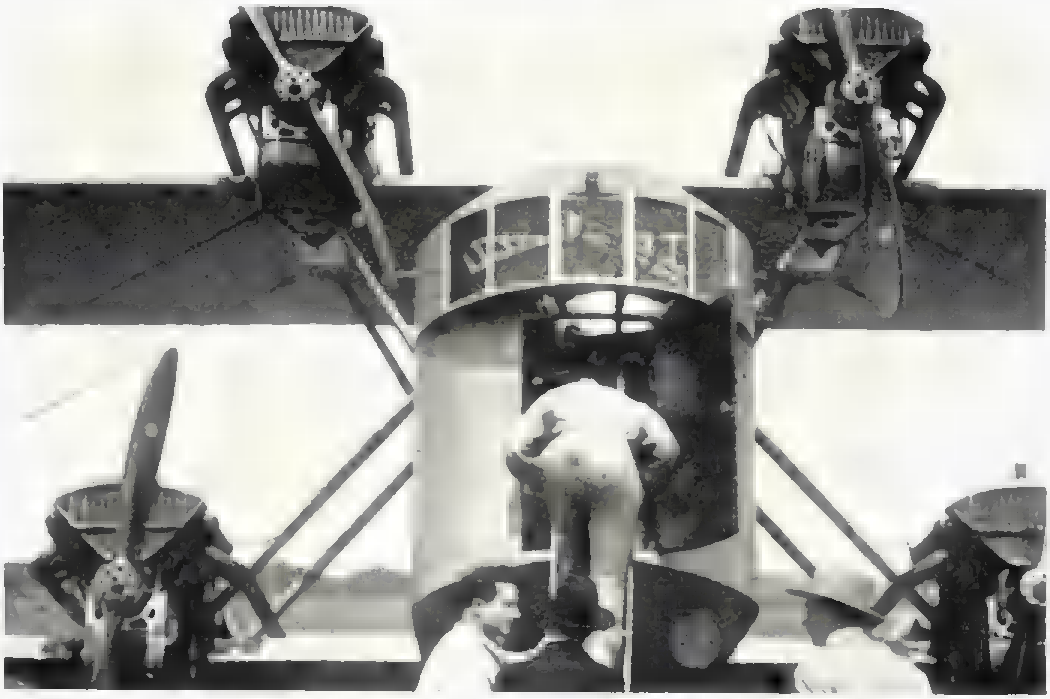
"England isn't so far behind the others, I guess; some 50,000 passengers have flown across the Channel since the Armistice, and most of them have traveled in British machines. Not one of these English fellows has ever landed in the water, but there was a Dutch plane a couple of years ago, with three passengers aboard, that came down in the Channel; landed on the Goodwin sands, and a Channel freighter took the pilot and passengers off and brought them over to Dover.

"So you are going to travel on all the air lines in Europe this summer? Well, I declare! I believe I envy you. Good luck—and safe landings."

An object for envy I felt, too, when a few days later I climbed into the British Imperial Airways bus at Trafalgar Square

A FOUR-ENGINE BLERIOT PLANE UNDER TEST FOR LONDON-PARIS SERVICE

Note the lights for night landing, mounted just beneath the floor of the fuselage.



Photographs by Lieutenant J. Parker Van Zandt

ANOTHER VIEW OF THE FOUR-MOTOR PLANE SHOWN ABOVE

Passengers and pilot may enter by the door in the nose of the fuselage or through a similar door in the side.

© Central Aërophoto Co.

DERBY DAY AT EPSOM

A few miles to the southwest of Croydon, the air station of London, is the most famous race course in the world, Epsom Downs, where the "Oaks" and the "Derby," established in 1779 and 1780, respectively, by the twelfth Earl of Derby, are run annually before hundreds of thousands of spectators.

bound for the flying field—and Paris. There were eight of us in the car, of whom five were Americans — in fact, Americans form the major part of the cross-Channel air traffic.

Two silent Chinese girls, in the latest European styles, sat wedged in one corner, while beside them a loquacious broad-brimmed Oklahoman held conversation with a stout, bejeweled lady from Texas.

Some sense of sharing an adventure in common seemed to penetrate for the time that air of stiffness so habitual between strangers thrown together by the hazard of travel. Certainly there was nothing to dissipate it in the ride out through the crowded London streets to the London Terminal Aërodrome at Croydon—bowling down winding lanes at 40 miles an hour.

AIR STATION PRESENTS THE ASPECTS OF A RAILWAY TERMINAL

To any timid passenger the sight that met us at the field would have been very reassuring. An imposing row of offices and waiting rooms of the Dutch, French, and British services, a courtyard before the Customs building well filled with limousines and busses, a bustling and

scurrying to and fro of tourists and attendants—the normal pulse and movement of a typical railway station.

The noon liner from Paris had just arrived, a French bi-motored Goliath, and stood among a group of planes beyond a picket fence that separated us from the flying field. Its big propellers were still idly turning over, the last of its dozen passengers just emerging through a doorway in the fuselage.

OUR PILOT HAD BOMBED THE CAPITAL OF AFGHANISTAN

A pompous, uniformed guard stood beside a large traffic board on which the positions of the planes en route along the airways were represented by various colored tacks. To him I appealed to point out our pilot.

"There 'e is," said my informant, indicating a stocky youth in a worn leather coat, leaning against the wing of a Handley-Page. "I'i'm told 'e's frightfully hunpopular in Hafghanistan. You see, 'e was flying a bomber down there, and 'e dropped 'is load on the Hamur's 'arem."

It is one of the boasts of the Croydon field that its customs officers are as expeditious and efficient in their sphere as is the aircraft itself in its own element. I soon found myself comfortably installed in the seat of honor beside the pilot in the nose of the *Princess Mary*, the two Rolls-Royce engines close behind me on either side, under half-throttle, humming tranquilly their message of latent power.

A messenger came scurrying out, waving the final clearance papers for the pilot; a burst of blue smoke and a rising roar from the starboard motor, and the great plane began to circle slowly out from the line of hangars toward the green field.

An airplane on the ground is an unwieldy creature, and we bounced along over the uneven turf, as the pilot cautiously sought the far corner, from which we had a clear run of the length of the

© Aërofilms, Ltd.

LOOKING DIRECTLY DOWN UPON THE TOWER BRIDGE, LONDON

It has been suggested that the Thames River might be used as a landing base for airplanes in the heart of London, to avoid the long bus trip out to the terminal field at Croydon. The presence, however, of the numerous bridges and innumerable small craft on the river and the prevalence of low fog and other unfavorable water conditions make this suggestion impracticable at the present time.

© Aërofilms, Ltd.

ST. PAUL'S CATHEDRAL, LOOKING WEST DOWN LUDGATE HILL: LONDON

The beauty in proportion and perspective of many great public buildings is not truly appreciated until they have been seen from the air.

aërodrome for our take-off into the wind. A sudden, engulfing, devastating roar, as the throttles of both engines were fully advanced, control wheel well forward to raise the tail of the plane, and we began to roll swiftly ahead, gathering fresh momentum with each fleeting instant.

THE AIRPLANE IS A MAGIC CARPET BEARING ONE THROUGH THE SKIES

One is scarcely conscious of the actual moment of leaving the ground until the absence of further jolting and the slight billowing effect, as the wings cushion in the warm air, make one realize with a peculiar thrill that he is off at last on his great adventure. The near-by hangars, trees, and hedges flash by the wing tips in a blur; then the ground seems to be wafted gently downward and the whole sweep of the surrounding countryside comes into view as the pilot zooms to a higher altitude.

There is no sense of dizziness, no sudden feeling that the solid earth is deserting the feet; just a growing sense of release, a feeling of age-old restraints cast off, like a sigh of relief from the soul.

But the emotion of cross-country flight must be experienced to be appreciated. Like the taste of fresh olives, it defies description. There is a sense of exhilaration and freedom invoked by the spectacle of green hills and dales streaming rapidly away beneath, as one floats above with little realization of his own motion, save the knowledge that the checkered farm land just below in a brief space of time will be fading into an indistinct horizon far behind.

Some remote atavistic instinct is stirred at this sudden break with accustomed limitations, flooding one's soul with a new spirit of power and importance, as his magic carpet bears him swiftly through the sky.

© Central Aërophoto Co.

THE BUSINESS HEART OF LONDON AS IT LOOKS FROM THE AIR

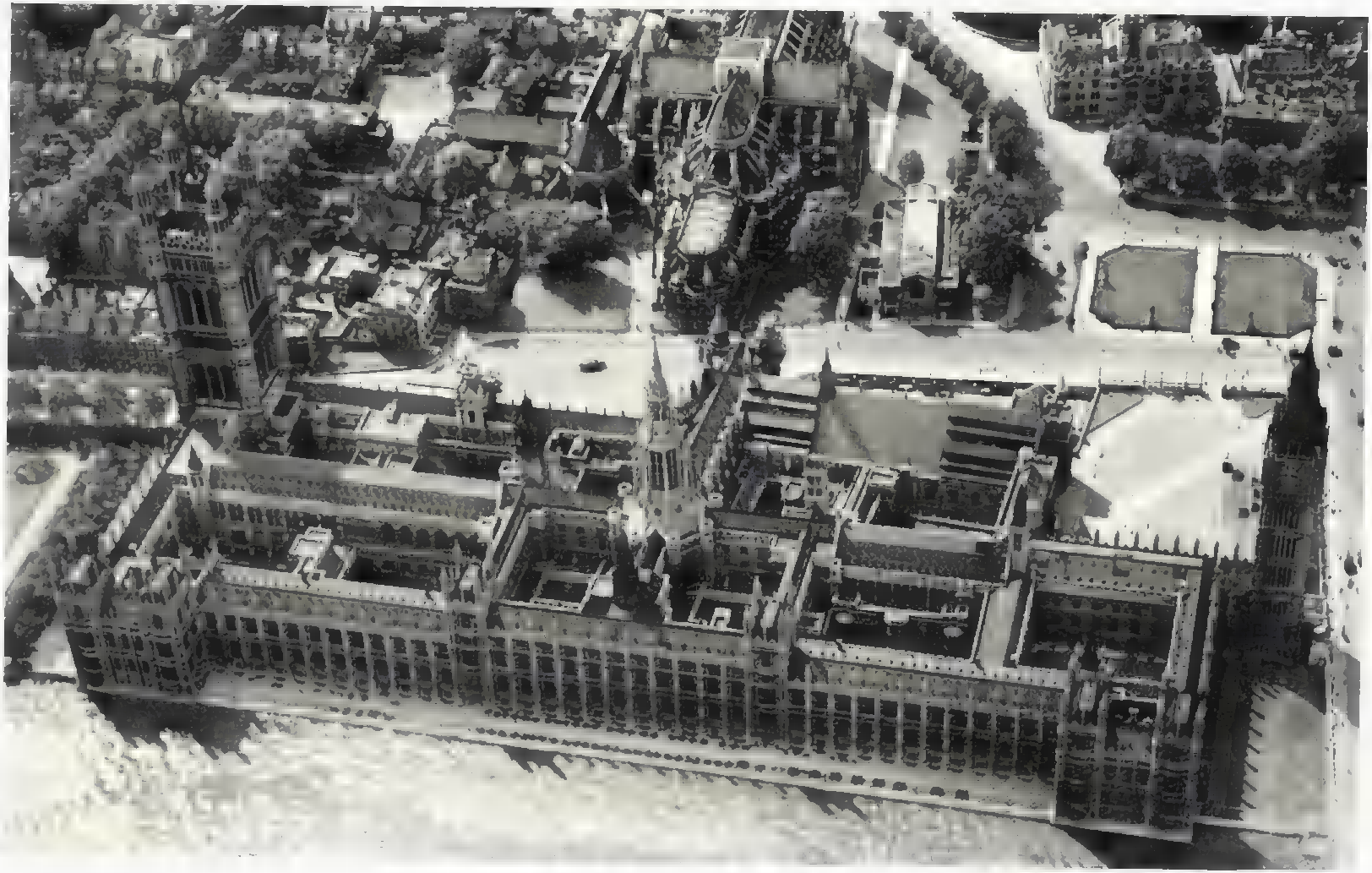
Note the absence of street cars and the great number of autobusses. In the center of the picture is the Royal Exchange (the building with the columns), and to the left is the jumble of roofs of the Bank of England, immediately beyond which is the Stock Exchange. At the bottom of the picture, in the center, is Mansion House, the residence of the Lord Mayor.

Flying a few hundred feet above a low-lying range of hills, we skimmed past several magnificent English manors, their well-kept grounds laid out with geometric precision.

The white ribbon of the road curved over the hilltop and down the valley, beckoning us to follow, while the ever-changing and widening vista of the English countryside held the attention enthralled. To be truly appreciated, England must be seen from above—"her sights and sounds, dreams happy as her day."

There was something warm and refreshing in this embracing vision of friendly cottages hidden in foliage, winding lanes bordered with hawthorn hedges, and the mile after mile of cultivated fields upon which the golden harvest now stood ripening, as we sped in an unveering line over hill and coppice.

It has been said that an English summer consists of two days of sunshine and a thunderstorm, but our weather could not have been more ideal. The air was clear and warm, as we neared the coast, and from an altitude of 1,500 feet we could trace the gray waters of the Channel far to the north toward the Hook of



© Central Aërophoto Co.

LOOKING DOWN ON THE HOUSES OF PARLIAMENT: LONDON

In the central background is Westminster Abbey. In Parliament Square, to the right, are statues of Sir Robert Peel, Lord Palmerston, the fourteenth Earl of Derby (1799-1869), Disraeli, and Canning.

Photograph by Aërofilms, Ltd.

THE SEA FRONT AT BRIGHTON, THE WATERING PLACE ON THE ENGLISH CHANNEL SO FREQUENTLY COMPARED WITH AMERICA'S ATLANTIC CITY

Note the row of white "bathing machines" on wheels. In the middle distance, at the right, is the Palace Pier.

Photograph from Lieutenant J. Parker Van Zandt

A FOUR-PASSENGER COMMERCIAL PLANE USED ON SOME OF THE AIR LINES BY AN ENGLISH AIRWAYS COMPANY, IN FLIGHT OVER SUSSEX

This plane may be hired to fly "anywhere any time," at a standard gross price of two shillings a mile. This includes the pilot's salary and all other expenses connected with the operation of the plane itself. Last summer an American business man hired such an air taxi and traveled some 12,000 miles over Mediterranean countries.

Holland, and south to where the water and the distant haze converged on an unreal horizon.

A TWO-HOUR BOAT TRIP CUT TO 22 MINUTES BY AIRPLANE

The rays from the afternoon sun threw a shadow of the plane on the earth below—a grotesque, miniature shadow that slipped silently over hedge and plowman and cottage, streaked across a field of yellow grain at the Channel's edge, slid precipitously down the chalky cliff, and without an instant's pause plunged out across the water.

A score or more of vessels were in sight, one big chap, outbound for some far-off port, lying directly on our path, black smoke streaming from the stacks, its murky track visible for miles in its wake. Our fleeting, streamered shadow eclipsed for an instant the tiny-appearing passengers crowding the hurricane deck, plunged a minute later over an old schooner making lazily for Zeebrugge, and darted on over the gray Channel waters toward the low-lying coast of France, which now showed on the horizon.

We were 22 minutes from Folkestone to Boulogne-sur-Mer, 22 glorious minutes against two difficult hours by Channel boat. The clean, white sand of Le Touquet beach (Paris-Plage) lay beneath us, as we swung inland.

Seemingly far ahead against the horizon hung an ominous bank of cumulus clouds, their flat tops in brilliant sunshine, while below the soft outlines of the open fields were submerged in shadow.

THE PILOT GETS WEATHER REPORT BY RADIO PHONE DURING FLIGHT

An aviator's life is said to consist of hours of idleness punctuated by moments of intense fear, but the pilot seated by my side would have quickly put to rout such a slander. At the moment, he was

talking into his radio phone, the mouthpiece of which was attached to a jointed metal sleeve strapped to his chest. I could see his lips moving, but no sound of words reached me above the enveloping roar of the engines mounted so closely on either side.

He switched the phone to receiving and in a minute leaned over, grinning, to shout in my ear that Le Bourget reported the sky clear as far as Beauvais, and that he would fly above the clouds the intervening distance.

Wisps of cloud were already drifting by, filmy gossamer outposts of the massed battalions ahead. Very different and harmless they appeared when seen close by, tossed by the slip-stream from our propellers, but rather frightening where the cross-wind currents crowded them into great pressure ridges towering hundreds of feet above our line of flight, or left dark, foreboding crevasses in the cloud floor.

Photograph by Aërofilms, Ltd.

ASHFORD, ENGLAND, ON THE LONDON-PARIS ROUTE, IDENTIFIES ITSELF FOR THE AIRMAN

Note the sign on the roof of the railway station. There are now a number of cities in Europe and also in America which have painted markers on roof tops and prominent buildings to help the flyer identify his position. The Army Air Service in America has been active in promoting this service along the model airways which the War Department is establishing.

PLANE'S SHADOW SCAMPERS OVER CLOUD BANKS

With a sudden rush, the green fields far below were blotted out of sight, and a damp, gray mist enveloped us, a sense of floating in some dimly lit, enormous ocean cavern—then abruptly into brilliant sunshine again, while just beneath our wings, looking for all the world like a fresh-fallen field of snow, stretched the great mesa land of clouds.

Among the many wonders of flight, there is a special and peculiar enjoyment evoked by flying in clouds—a feeling both of arrogance and humbleness in thus prying into the infinite wonders of Nature's overhead workshop, a quickening of the sense of "the incommunicable and elusive excellence that haunts all beautiful things."

Our shadow, now faintly fringed with rainbow colors against the brilliant white surface just below, and prodigiously increased in size, scampered over the tum-

© Aërofilms, Ltd.

CANTERBURY CATHEDRAL VIEWED FROM ABOVE

bled cloud layers with amazing speed, its nearness emphasizing the swiftness of our flight.

Through an unexpected rift in the woolpack, a patch of dark fields appeared beneath our wing and the word "Abbeville" became discernible, written in big white letters on the ground. This is one of the intermediate stations along the airway where supplies and shelter for the airmen are available. My companion reported our passage by radio and received from Abbeville a reply that we were invisible from the field.

The wind-scattered edges of the cloud bank faded behind us as the Cathedral of Beauvais came into view, casting long shadows in the fading light. Then Paris under a twilight glow, a tangle of red mansard roofs in the distance, with the Eiffel Tower and Sacré Cœur standing sentinel against the crimson sky. Le Bourget was at our feet. The pilot reeled in his wireless antenna and, with engines throttled, we came wheeling into the wind over the Customs building, the ground rushed up to meet us and skimmed by under our wheels, the tailskid settled easily onto the grassy turf and—*nous y sommes.*

"Have you anything to declare, *des cigarettes, du tabac?*" asked a bored-looking customs officer. *"Non? Eh bien, passez."*

And we are off for the Place de la Concorde in a big motor bus, tongues loosened as everyone exchanges impressions with his neighbor.

© Central Aérophoto Co.

THE CHALK CLIFFS AT BEACHY HEAD, BETWEEN BRIGHTON AND DOVER, SEEN FROM THE AIR

It is a remarkable fact that, with the thousands of airplane flights between London and the Continent, there are only two instances of planes being lost in the Channel. In one of these cases it is believed that the pilot was shot by an insane passenger, and regulations were thenceforth issued prohibiting passengers from riding in the cockpit with the pilot.

It is hard not to look down with a touch of conscious superiority on the jostling street throngs, tired workmen, who have trodden the dusty road of common tasks, hurrying home, while for us all the heavens have sung of liberty.

OFF TO TOULOUSE FOR A FLIGHT TO MOROCCO

Not many evenings later I boarded a night train at the Quai d'Orsay bound for southern France. The lights of the French capital were still glowing in the sky as I tumbled promptly into bed preparatory for an early rise in the morning.

It was shortly after 4 a. m. when the voluble conductor awakened me — the same whose palm I had crossed the previous evening to insure against any midnight intruders attempting to share my compartment. "For ways that are dark and devious," the French *wagon-lit* conductor has few superiors.

We were late rolling into Toulouse, the northern terminus of the French air line to Morocco, and although it was scarcely light, the local field manager was at the Gare du Midi awaiting us.

A few minutes at the Poste to collect the score or more of heavy mail sacks that had come down on the same train, and we were rattling over the cobblestones in the ubiquitous Ford toward the open fields.

The air port at Toulouse is the main repair and construction field for the entire Latécoère system, but there was no time this morning for even a hasty inspection.

A Breguet biplane was on the cement mat before the long row of hangars, its Renault engine idling. Upon our appearance a small group of mechanics precipitated themselves upon the mail, stowing the sacks in two large streamlined containers hung on either side of the landing wheels, beneath the lower wing.

A sleepy-looking *paysan* in a Customs

Photograph by Lieutenant J. Parker Van Zandt

PASSENGERS ARRIVING FROM LONDON AT THE PARIS TERMINAL AËRODROME, LE BOURGET

Most of these passengers are American tourists. This plane has seats for 12 passengers, with a luggage compartment in the rear, from which the mechanics may be seen unloading baggage and air express. The engines are 350-horsepower Rolls-Royce motors, such as were used in long-distance bombing planes during the war. On the upper wing may be seen the gasoline tanks, from which the fuel reaches the engines by gravity.

uniform made some hasty notes relating to my passport and declared impecuniosity, and I scrambled into the rear open cockpit as the pilot began to taxi slowly away from the buildings.

BEGINNING THE MOST MEMORABLE AIR RIDE IN EUROPE

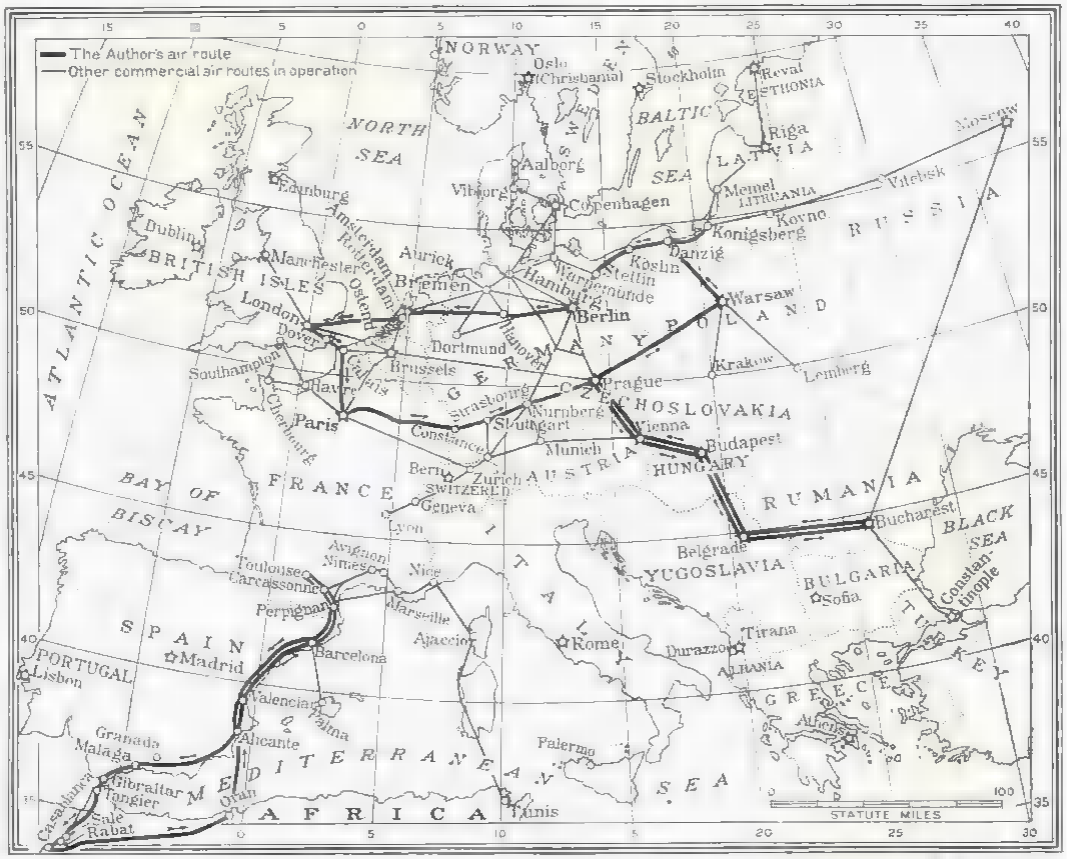
An answering roar from the engine as the throttle was advanced, wheels plowing through the deep dewladen grass, tail poised for flight—and I was off on what was destined to prove my most memorable air ride in Europe.

A wide turn over Toulouse, the street lights glowing dully through the ground mist. In the half-light of early morning the earth appeared dark and cold, and the crisp, clean rush of air past my uncovered cockpit made me thankful for the warm flying suit borrowed from a friendly mechanic at the field.

The gentle valley of the Garonne lay sleeping under a fleecy sheet of light fog, the apparent complete suspension of life evoking in some peculiar way a sense of special virtue in our own animation.

Like a child's ribbon, the canal lay curled at the base of the furrowed hills, a solemn double row of poplars guarding its banks. The black thread of the railroad now ran close beside it, now struck out boldly across the rich farm land toward where the valley narrowed before the encroaching Pyrénées.

A grayish mist across the narrow corridor warned us to descend to a lower altitude. The whistle of the flying wires rose to a shrill pitch, as we gathered momentum in the downward glide. Wisps of damp cloud flung by, and then a sudden opaqueness, as we plunged with noiseless impact into the threatening cloud front ahead.



Drawn by A. H. Bumstead

THE ROUTE FOLLOWED BY THE AUTHOR IN HIS 6,500-MILE AIRPLANE TOUR OF EUROPE

The cost of travel by air in Europe at present is not excessive and is roughly equivalent to first-class passenger travel by rail. The actual cost of air tickets for the total 6,500 miles was $380, or between five and six cents per air mile. It is to be remembered that the actual ground distance is in almost every instance considerably longer than the air distance involved. For the flight from Toulouse, France, to Spanish Morocco and return, the distance of 2,360 air miles is flown at a cost of $84, or at a rate of three and one-half cents per air mile. If the cost of sleeping accommodations and meals on trains or boats is included, the travel by air in many instances is actually more economical than first-class passage by any other means. The total flying time was 73 hours for the 6,500 miles, or an average speed of 89 miles. The two principal reasons for the low cost of this air tour were the generally favorable rate of exchange now prevailing and the government subsidies granted to the air lines, which cover a portion of the expense of operation.

In the damp semidarkness before me the glimmer of the radium-painted altitude indicator marked our steady descent from 300 meters to 200, 100—and then we were in the open again, with the dreaming farmhouses just beneath and the tall poplars reaching midway up to us.

Ahead looked unpromising. The crests of the hills crowding in on both sides were hidden in cloud, and the red-tiled roofs and yellow haystacks loomed up uncomfortably near, as we cautiously pursued the contour of the valley bed, marked by the canal.

Pang! A drop of rain strikes my forehead and smarts like a hailstone. The damp, chill air penetrates through the flying suit and the lowering cloud just overhead shuts out the morning light.

A half hour passes. We dodge through a winding pass ahead, swing to the east again, and abruptly there opens before us a glorious picture of the breaking day. Still in shadowland, as from the mouth of a giant cavern, we gaze out under the

Photograph by U. S. Army Air Service

THE FAMOUS ARC DE TRIOMPHE: PARIS

France's Unknown Soldier rests beneath this arch. Captured German guns may be seen surrounding it. Shortly after the World War a French flying ace flew a speedy pursuit plane through this archway at a speed of 140 miles an hour. The clearance between his wing tips and the sides of the arch were less than four feet on either side. The slightest error of judgment would have meant utter disaster.

Photograph by Compagnie Aérienne Française

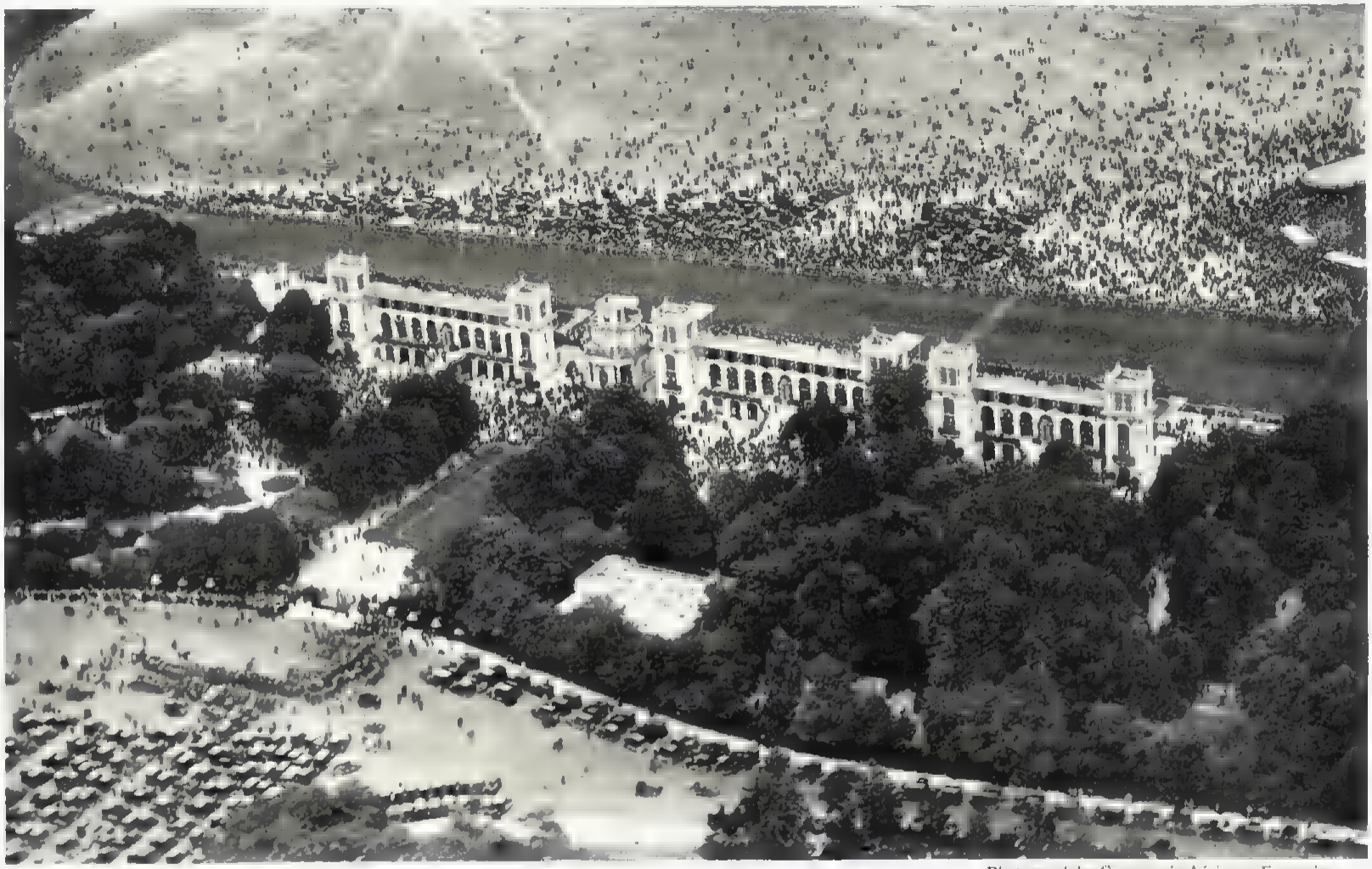
THE OUTSTRETCHED WINGS OF THE TROCADÉRO SEEN FROM THE AIR: PARIS

The central portion of this great museum building contains a festal hall having a seating capacity of 6,000. The two minarets, rising to a height of 230 feet, are conspicuous features of the Paris landscape. On the opposite bank of the Seine rises the Eiffel Tower.

Photograph by U. S. Army Air Service

THE JULY COLUMN, IN THE PLACE BASTILLE: PARIS

Rising on the site of the fourteenth-century castle which in time became the notorious prison and emblem of tyranny known as "the Bastille," this column of bronze commemorates not the destruction of the fortress at the beginning of the French Revolution, on July 14, 1789, but the heroes who fell in the revolution of July, 1830. In the right foreground is the St. Martin Canal, which beyond this point is vaulted over for a distance of a mile and a quarter and runs beneath the Boulevard Richard-Lenoir.



Photograph by Compagnie Aérienne Française

AN AIRPLANE VIEW OF THE LONGCHAMP RACE TRACK, IN THE BOIS DE BOULOGNE, ON THE DAY OF THE GRAND PRIX

The first race of the season, held at Longchamp early in April, is a fashionable fixture, when the new spring fashions of the Paris modistes are seen in all their glory. The Grand Prix, chief of the French races, is run on the last Sunday of June, inaugurating the summer season.

Photograph by Flandrin

TOULOUSE, ONE OF THE IMPORTANT CITIES OF SOUTHERN FRANCE, FROM WHICH THE FLIGHT TO MOROCCO BEGAN

The terminal flying field may be seen in the central background of the picture, marked by a prominent row of hangars along the railroad track. A number of Americans have studied at the University of Toulouse, and after the war special courses were given to Army officers. Note the numerous bridges across the Garonne.

black wedge of the storm lifted above us into the golden, sunlit country beyond.

Through some momentary, drifting cloud the low-lying sun sends forth long bars of alternate light and shade, like giant chariot spokes, as if to guide us in our eastward flight; and the whole countryside lies floating under a rising mist that covers the land with a transparent lavender veil. Such a glorious moment's careless rapture is worth "an age without a name."

ACROSS SPAIN ON A SACK OF MAIL

The walled city of Carcassonne slips by, sharply etched in light and shadow (see page 282), and the glistening waters of the Mediterranean appear ahead. As we swing by the eastern slopes of the Pyrénées, the clouds that had seemed so black and ominous overhead now appear snow-white, soft, vaporous, streaming south.

Perpignan lies in a fertile valley at the eastern foot of the Pyrénées, and here we make our first landing, one hour from Toulouse, to pick up the mail from Marseille. The connecting plane has arrived before us with another passenger, a young Frenchman with military clothing samples for his clients among the *fonctionnaires* at Rabat.

My comfortable chair is removed and replaced by a huge sack of mail; *"neuf kilos excédent"* of baggage is wedged in alongside; Monsieur, my new traveling companion, takes his place before me, while I mount solemnly on top of the mail sack, head and shoulders exposed to the wind. From such a vantage point, *en plein air*, I tour the length of the Spanish coast!

It is noon and we are approaching Alicante, 6,000 feet above a tangle of rocky slopes bordering the sea. Sun-baked white huts cling precariously to the ridges. Terraces, burnt dry, struggle up the hillsides. On our right the mountains rise sharply pointed, precipitous, gullies and pockets in their bare sides, patches of rough cultivation on their lower slopes. Dried river beds lie parched in the heat of the summer sun.

On our left the great bowl of the Mediterranean, green to deep indigo-blue along the rocky shore line, silver-gray on the shimmering horizon: a few toy fishing boats motionless on its placid surface.

The drowsy, friendly, comfortable purr of the engine which reaches us muffled by the cotton in our ears, and the deep drafts of cool fresh air have induced my companion to doze in the corner of the cockpit, his feet drawn up under him on top of packages of machine parts, the scarf about his neck waving languidly, like an ancient altar flame, in the eddies of wind above his bent head.

Barcelona, with its beautiful park, its monumental bull ring, its uncompleted Cathedral, is three hours behind us. Peñiscola, that extraordinary cluster of gray walls and white fishermen's huts clinging to a tiny rock thrown out like a button into the sea (see page 286), has faded into the distant haze. This is Spain, dry, sunburnt Spain, whose brown hills and relentless heat have burned themselves so indelibly into Spanish character. Valencia and its fertile valley lie forgotten to the rear (see page 289).

WE TRANSFER MAIL TO A PLANE BOUND FOR ALGERIA

Alicante at our feet, choking under a dense blanket of dust stirred up by the unbidden sirocco. The sirocco is as unwelcome in Spain as is the mistral in southern France.

We leave our cool height and glide down slowly, skim over a fence of rough piled stones, and settle to the earth, kicking up a great cloud of yellow dust behind us, as we taxi to the hangar. What a contrast with the cool green field at Toulouse a few hours earlier! Here the barren, sandy ground seems to seethe in heat and the air is thick with suspended dust.

No time for lunch. A cup of black Spanish coffee while the mail is being transferred to a waiting plane, a few pesetas to the sandaled, slatternly *femme de buvette*, and we are off, happy to rise quickly above the mantle of dust and breathe the clean air again. The hot wind off the bare hills clutches at the plane and tosses it angrily about, until we pass suddenly into the cool stratum above and make smoothly for the distant peaks of the Sierra Nevada (see page 292), far to the south.

Photograph by Flandrin

"THE WALLED CITY OF CARCASSONNE SLIPS BY, SHARPLY ETCHED IN LIGHT AND SHADOW" (SEE TEXT, PAGE 281)

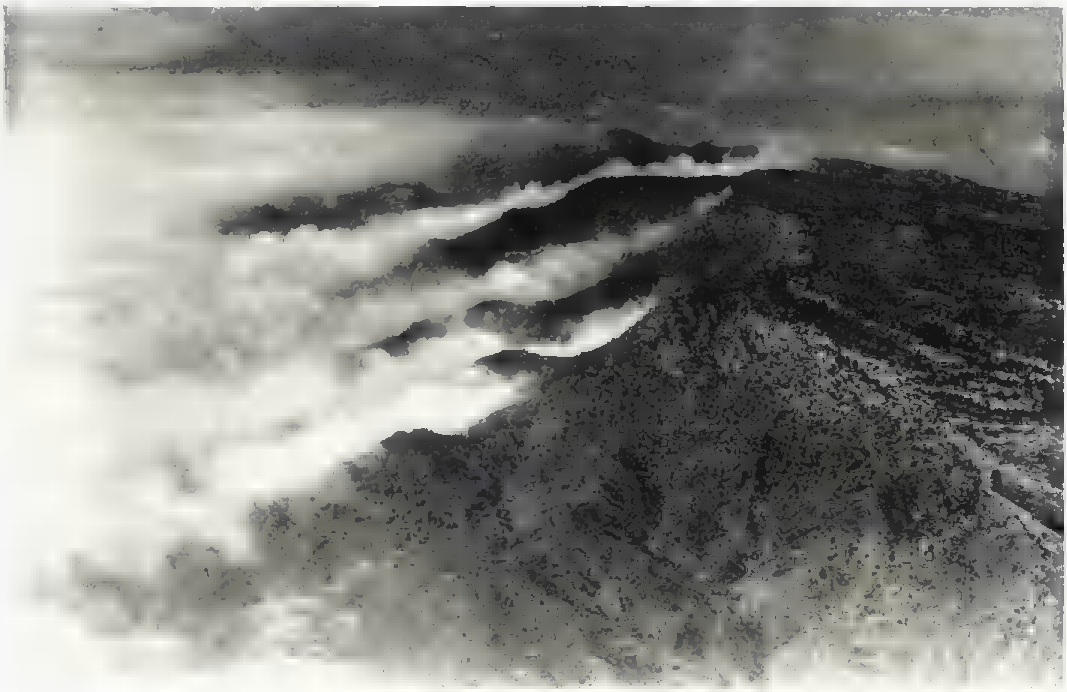
In 1849-79 the fortifications of the citadel were restored by the famous architect Viollet-le-Duc, who considered them the most perfect and picturesque examples in Europe of defensive works of the 11th-13th centuries.

Monsieur nudges me to note the sun-stricken fort and tiny harbor of Alicante, with the breakwater thrust out into the sea. As we watch, a seaplane takes off, bearing the mail for Algeria which we have brought from France. The following week, if all goes well, I will be returning from Oran, 200 miles across the blue Mediterranean, on that same hydroplane (see page 303).

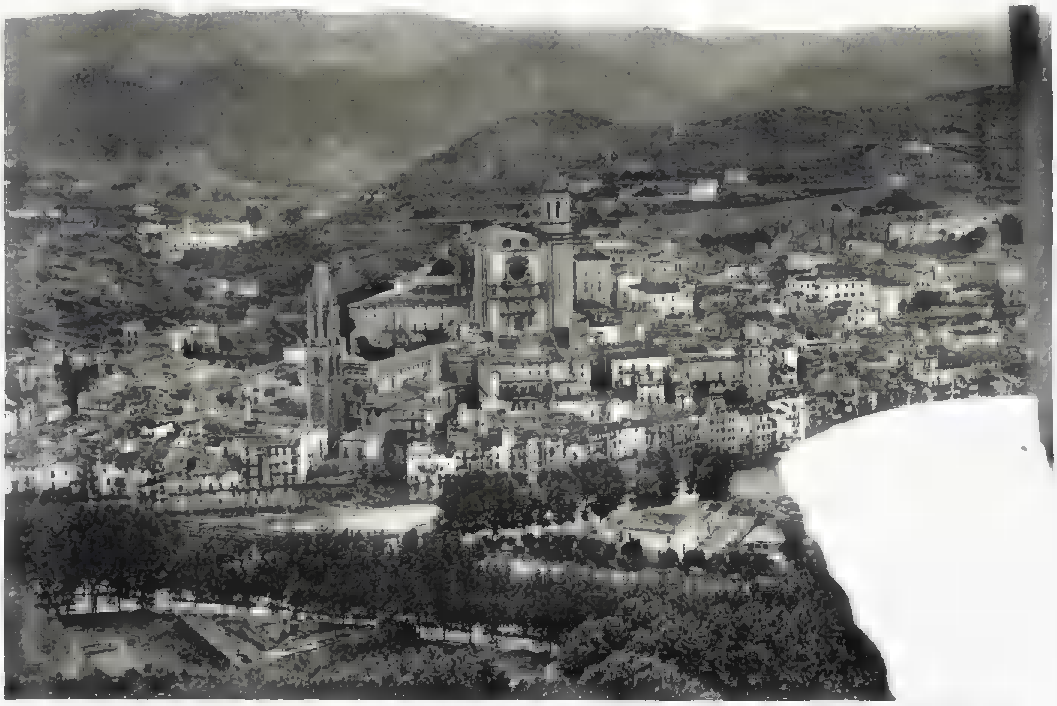
From somewhere among the packages under his feet, my companion produces a shoe-box, which he opens to reveal a *"déjeuner français, vin compris!"*

Here is good fortune, indeed: and 3,000 feet in the air we drink each other's health with red wine from a leaky folding cup, while the orange groves of Murcia slip away beneath and the sullen Sierra range unfolds in seemingly endless panorama ahead.

A snow-clad peak appears, dimly visible above its companions upon the horizon; two hours, and it has passed beneath us and lies indistinguishable among its neighbors, now far to the rear. Thus does air travel obliterate ancient barriers. Tiny white villages, like clustering flights of egrets, begin to dot the great brown slope rising up from the shore.



A STORM BREAKING OVER THE PYRÉNÉES NEAR PERPIGNAN (SEE PAGES 275 AND 281)



Photographs by Flandrin

AN AIRPLANE VIEW OF GERONA, SPAIN, BETWEEN PERPIGNAN AND BARCELONA

The conspicuous building in the middle distance, with only one of its octagonal towers completed, is the city's Gothic cathedral, begun in 1312. Gerona boasts of one of the most heroic defenses of history, when, in 1809, a small Spanish garrison, aided by a handful of English volunteers, withstood a French army of 35,000 for seven months. The French lost 15,000 men before the fortifications whose ruins still crown the encircling heights.

Photograph by Flandrin

AN AIR VIEW OF BARCELONA, SECOND CITY OF SPAIN

This great seaport seems more closely related in spirit to the French port of Marseille than to the Spanish cities in the south. There are many beautiful residences on the foothills surrounding the city.

Photograph by Flandrin

THE CITY AND HARBOR OF TARRAGONA, SPAIN

The bull ring (near the middle of the picture) is a conspicuous landmark of almost every Spanish city of importance. It is in Tarragona that the celebrated liqueur of the Grande Chartreuse has been manufactured since 1904, when the monks of Grenoble were forced to leave France.

Photograph by Flandrin

"THE GIBRALTAR OF VALENCIA"

One of the most remarkable natural curiosities along the eastern Spanish coast is Peñíscola, a little fishing village on a rock out in the Mediterranean several hundred yards from the coast and joined to it only by a low, narrow sandy strip. It is the more extraordinary because in this region the shore line is quite straight and regular and the hills have receded to some distance from the sea. This stronghold was wrested from the Moors by Jaime I of Aragón in 1233. It was the residence of Benedict XIII, antipope, with his cardinals, after the Council of Constance deposed him, in 1417.

A group of fishermen's huts appears at the foot of the cliffs, where a welcome beach affords a possible *terrain de secours*, should our faithful motor fail us. The tiny white ribbon of a road creeps along the face of a rocky cliff, hot and panting under the flooding sunlight, until it finds brief respite in a shadowy tunnel.

ALHAMBRA PALACE A HALF HOUR'S FLIGHT TO THE RIGHT

Our new pilot, who joined us at Alicante, is a tall, vigorous-appearing Corsican with leathery skin, tremendous hooked nose, and dark, flashing eyes. He points to the jumbled hills thousands of feet below, pulls his nose, makes a wry face, and shakes his finger disparagingly. The tanned kerchief about his neck whips in the breeze; the silken sock which he wears for a helmet is much the worse for constant exposure to grease and oil; and his sharp eyes face the wind without the protection of goggles.

A valley opens out and Málaga appears, a welcome sight after four hours.* It is hot on the ground, and tropical palms, their fronds gray with dust, border the field. Up this valley a brief, cool half hour by air—and most of a disagreeable day by Spanish train—lies Alhambra Palace on its wooded hill, Granada at its feet (see page 294); and sometimes, when the wind is right, the pilot lays his course that way, deserting the shore line for the inland route.

But such was not our good fortune. In 10 minutes we have transferred to a new plane, and with another pilot are off down the coast, the lower contours flattening out as we rise above them.

Here at last the long Spanish coast ends at the Strait of Gibraltar, culminating in that strange, formidable outthrust of the earth named after a long-dead Moor

*See also "From Granada to Gibraltar—a Tour of Southern Spain," by Harry A. McBride, in THE GEOGRAPHIC for August, 1924.

(Tarik). The wind sweeps through the narrow strait, scattering sudden flashes of white foam in the Mediterranean blue, like fireflies against a twilight sky, while beyond lies Ceuta on the Moorish coast, with the highest peak of its headland, the African "Pillar of Hercules," standing out menacing, portentous (see page 298).

SKIRTING THE AFRICAN COAST UNDER A PITILESS SUN

The international port of Tangier beneath our wings, white, flat-roofed houses rising above each other in tiers of cubes, a solitary minaret jutting into the air, a gray line marking the trace of ancient battlements, Portuguese or English.

To our left lie the Riff hills, where Spain is vainly bleeding herself to death; before us, brown, burnt, and dead, the wide, rolling world of the Bled, the Moroccan veldt; on our right, the restless blue of the Atlantic. This is the East, bright and shining as a sword, under a pitiless sun.

Here and there, on the lone, treeless plain, are flocks of Berber sheep, conical huts of the *indigènes*, and the clustered black tents of nomads. We skirt the African coast, where Phœnician, and, later, Portuguese caravels crept cautiously southward.

The heat at this hour of the day, even at 2,000 feet, is stifling. From my exposed perch on the sack of mail, the blast from the propeller is like that from the opened grate of a furnace; impossible to look westward, toward the burnished sun low on the horizon.

I crouch down to find shelter in the shadow of the cockpit, but the oppressive air seeps up and stifles with its stagnant warmth.

Our pilot descends to a few hundred feet above the Bled, where it is surprisingly cooler. The white-dovelike glitter of an Arab town appears by the blue rim of the Atlantic, the plunging breakers crashing soundlessly at its feet. Forlorn processions of camels move along the dusty trails; an astonished Moor, wrapped in loose, voluminous robes, looks up from his ambling mule.

Then Salé (Salli) of a dazzling whiteness, ancient home of the "Sally Rovers," and Rabat-el-Fath, the Imperial City, on the banks of the Bu Regreg, winding down to meet the blue of the ocean under high cliffs, through a brown-velvet valley (see illustration, page 300).

As we glide down over the Residency, the sun slips at last behind the low, banked clouds on the horizon, in gray mist and secret splashes of fire, and the red cliffs across "The Father of Glittering" are reflected like a flame in the river.

Here Monsieur, my traveling companion, bids me bon voyage and crawls stiffly over the side of the fuselage; my sack of mail yields its place to a comfortable chair, and the pilot and I are off in the closing hour of the day for our final hop.

THREE CIVILIZATIONS PASSED IN REVIEW IN 15 HOURS

The blinding light of the afternoon has given way to a velvet softness. The rolling Bled upon the Atlantic still lies burnt and brown, but there is more water here in the occasional meandering stream than in the sun-baked arroyos of Spain.

Roused by the roar of our engine, great storks rise leisurely before us and wing their way across a marsh, a study in black and white. At a bare 100 feet of altitude, we skim over a low stone wall, behind which an imperturbable, worm-eaten camel stalks languidly round and round a water wheel. Here are the squalor and simplicity of primitive life in a land burnt dry by an African sun.

Little native donkeys appear almost invisible under their heavy loads; an ass and a camel march slowly along together; in the distant eastern haze are the foothills of the High Atlas Mountains, forbidding refuge of the dissident Berber tribes, the *insoumis*.

The pilot dips down suddenly to a few feet above the broad Atlantic beach, and, with wheels almost touching the sand, we skim south, dunes flying by our wing tip, the pungent salt air of the crashing waves filling our nostrils. Thus we rush suddenly upon Casablanca, zooming up over the artificial harbor, across the white and yellow houses and ocher-tinted towers, and come at length to rest upon the flying field beside a military camp (see pages 301 and 302).

In the cool of the evening I wander through the narrow, winding streets within the walls of the old Moorish

Photograph by Flandrin

VILLAREAL AND ITS ELBOW-TOUCHING SISTER TOWN OF ALMAZORA (IN THE BACKGROUND)

Oranges are one of the products for which Spain is noted and these two towns, between Tarragona and Valencia, are in the center of one of the most productive orange-growing valleys in eastern Spain.

Photograph by Flandrin

A BIRD'S-EYE VIEW OF VALENCIA, LYING IN A FERTILE VALLEY TWO AND A HALF MILES FROM THE MEDITERRANEAN

"You would take it for a piece of heaven upon earth," is the phrase used by the ancients to describe this picturesque and thriving city, which ranks next to Madrid and Barcelona among Spanish municipalities. Valencia was the scene of that favorite episode of Spanish ballad makers, when the Cid, "after his death," led his army against the Moors and achieved an overwhelming victory. The story is told in the eleventh book of Southey's "Chronicle of the Cid."

Photograph by Flandrin

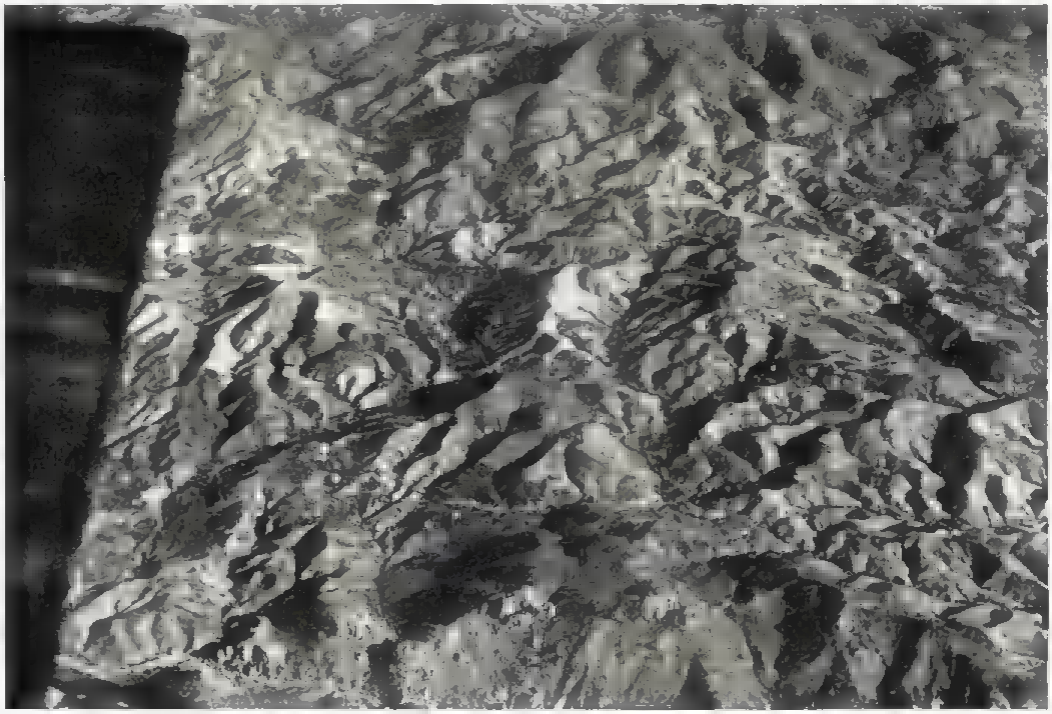
THE HARBOR OF ALICANTE: SPAIN

The landing field is on the level plateau behind the city, while the seaplanes plying between this port and Oran, on the coast of Algeria (French territory), anchor in and take off from the harbor. The Spanish Government has not taken a sympathetic attitude toward the development of the French air line across its territory to Africa, and at present neither mail nor goods are permitted to be delivered in or taken out of Spain by air. The company, in fact, cannot ship by air spare parts which it may urgently require and for which it may have room upon its plane, but must send them to its intermediate fields in Spain by the usual slow methods of rail transportation.

Photograph by Flandrin

THE HARBOR OF MÁLAGA, AT THE FOOT OF THE SIERRA NEVADA

To the northeast, a distance of a cool half hour by air and a disagreeable day by Spanish train, lies Alhambra Palace on its wooded hill (see page 294). Sometimes, when the wind is right, the airplane pilot lays his course that way, deserting the shore line for the inland route.



Photograph by Flandrin

THE CORRUGATED FOOTHILLS OF THE SIERRA NEVADA ALONG THE SOUTHEAST COAST OF SPAIN

These hills are very rough and uninviting in many places and offer few opportunities for a safe landing, in case the motor of the airplane should fail. The pilots generally follow the shore closely, depending on occasional open beaches to afford a welcome emergency field when occasion requires.

quarter, the courteous *chef de l'Aérodrome* as my guide. Veiled women slip noiselessly past, an indolent Moor in scrupulously white garments goes by astride his donkey, a half-naked water-carrier staggers under the swelling goat-skin flask across his loins.

Here is the age-old, immemorial life of the East, a page out of the thousand and second tale of Scheherazade. Yet this very morning, a brief 15 hours before, I was 1,200 miles to the north, across the length of Spain, engulfed in the tumult of a European city. By the hazard of travel, the contrasts of a score of centuries have been compressed into those 15 hours; three civilizations passed in review, made luminous and dramatized from the strategic crow's nest of flight.

FROM PRAGUE TO BUCHAREST IN A DAY

There were eight of us who sat in the crowded bus of the "Compagnie Franco-Roumaine de Navigation Aérienne" on an early August morning, as it pulled up the long hill out of Prague to the military aërodrome on the plain commanding the Vltava (Moldau) Valley. Of my traveling companions one was a Frenchman en route, as I, from Paris to Bucharest; the rest were Americans destined for Vienna—a group of college students and a young man from Boston traveling with his mother.

Two days before I had come from Paris in a Spad plane with a Czecho-slovakian for company, and several hundred pounds of silks and perfumes bound for the Balkan capitals. For four hours on that trip we had flown across German territory, where a forced landing would have resulted in the confiscation of the plane and goods and the pilot doubtless thrown into jail.

France and Germany are still very much at cross-purposes regarding aviation. Germany, smarting at the extension of the Versailles Treaty clauses

Photograph by Flandrin

A THIN WHITE LINE OF HIGHWAY THREADING THE SUN-SCORCHED HEIGHTS OF SPAIN (SEE PAGE 286)

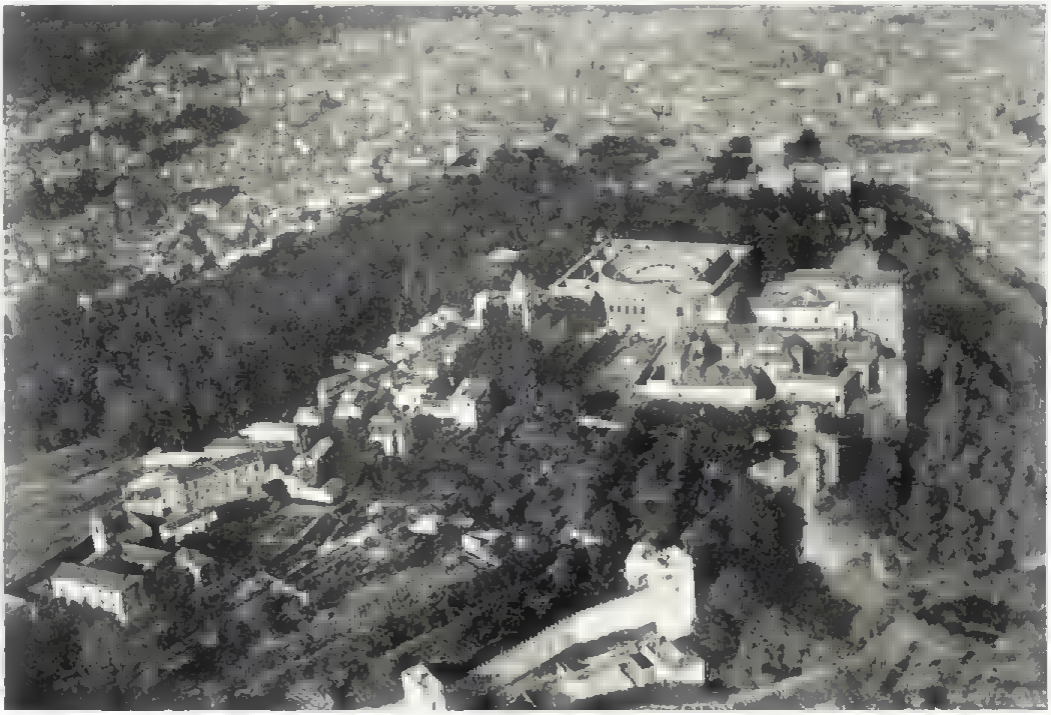
Where the mountains approach the Mediterranean shore the highway with difficulty cuts a tortuous path through the forbidding rocks. The generally arid and rugged character of southeastern Spain is deeply impressed on one by a flight along the coast.

which restrict its manufacture of aircraft, refuses authority to other nationals to fly across its borders, while France blithely continues to operate its air line between Strasbourg and Prague, trusting to careful management and a reliable engine to keep its equipment out of German hands.

This is a bitter legacy of the World War, a regrettable schism that only serves to aggravate international misunderstanding; but for those of us only momentarily involved, it appeared as an additional element of adventure, adding zest to our flight.

The many miles of the Black Forest crowding the German hills were still fresh in my memory, as were the softer slopes of the Vosges and the battle scars in the rich earth of the St. Mihiel salient, still obdurate before the patient reclamation of the French peasant's plow. The old imperial road leading through the Atlas Mountains to the orange groves of Algeria, which had been spread out beneath my winged observation platform but a few days before, now seemed a thousand leagues away.

It was hard to tear oneself away so



Photograph by Flandrin

AS AN AIRMAN SEES ALHAMBRA PALACE AT GRANADA, ONE OF THE PRICELESS CONTRIBUTIONS OF THE MOORS TO EUROPEAN ARCHITECTURE

The Moorish palace is to the right of the great arenalike structure (the Palace of Charles V) in the middle distance.

early from the quaint old city of Prague, redolent with the history and tradition of the ancient kingdom of Bohemia, of which the Czechoslovak Republic is the modern revival.

REGISTERED VOTERS ARE OBLIGED TO VOTE IN CZECHOSLOVAKIA

The frowning bulwark of the Hradčany, or Royal Castle, looks down across the green islets of the wide Vltava to the strange houses along the left bank, where the fusion of Italian baroque with the splendor of the Middle Ages captivates the eye. In this rich medieval atmosphere young Bohemia is hard at work building up one of the most progressive of modern democracies.*

In Czechoslovakia everyone entered upon the list of voters is obliged by law to vote, under penalty of fine or imprisonment, and the suffrage draws no distinction between race or sex, religion or station in life.

The Czechs are an industrious, progressive race, and for this reason, as much as any other, are not greatly loved by some of their more easy-going neighbors.

It is an interesting fact that the screw propeller, an essential element of the airplane which was to carry me swiftly across Bohemia this morning, was the invention of a son of a Czech customs official in Trieste, more than 100 years ago.

At the aërodrome we found two Spad planes waiting, as there were too many of us to accommodate in the usual one plane.

These winged carriers of the Franco-Roumaine are not the most comfortable of the modern European passenger planes, but they make up in part for their cramped quarters by cruising at a higher speed than the more commodious liners in use between London and the Continent.

The rounded semicylindrical body of

* See, also, "Czechoslovakia, Key-Land to Central Europe," by Maynard Owen Williams, in THE GEOGRAPHIC for February, 1921.

© Underwood & Underwood

GIBRALTAR, SEEN FROM THE NORTH

This is the familiar view of the great rock upon which Great Britain stands guard over the entrance to the Mediterranean (see also illustration, page 296).

Photograph by Flandrin

THE ROCK AND CITY OF GIBRALTAR AS IT APPEARED ON THE FLIGHT BETWEEN MÁLAGA AND TANGIER

The tiny strip of open neutral territory between British and Spanish land may be seen in the central background. For a detailed illustrated description of Gibraltar, see THE GEOGRAPHIC for August, 1924. One wing of the plane from which this photograph was made is visible at the left.

Photograph by Flandrin

THE INTERNATIONAL PORT OF TANGIER (SEE PAGE 287)

In the background may be seen the Riff hills, where Spain and the rebel Berbers have been engaged in conflict for many years. (See, also, the article by Harriet Chalmers Adams in this number of THE GEOGRAPHIC.)

Photograph by Flandrin

OVER CEUTA, IN SPANISH MOROCCO, AND THE SHORE LINE ALONG THE STRAIT OF GIBRALTAR (SEE TEXT, PAGE 287)

The strait between Europa Point and Ceuta is 12½ miles wide and the crossing by airplane consumes but a few minutes, as compared to a two-hour trip by boat.

the Spad has a closed compartment immediately behind the 400-horsepower Lorraine Dietrich engine, where three or four passengers may sit comfortably, if too many packages of goods of every variety are not being transported at the same time.

More modern planes now provide a separate compartment for commodities, with resulting increased comfort to the air traveler. In the rear of the passenger section are two cockpits, one for the pilot and the other for a mechanic.

By dint of much well-intentioned French with the field manager, who sat beside me in the bus during the ride out to the aërodrome, I was successful in getting this second cockpit allotted to me; so that a short half hour later, when we swept across the field and out over the Vltava Valley, I had the advantage of a vision of the surrounding country as unrestricted as that of the pilot close by my side.

THE BOHEMIAN COUNTRYSIDE IS A COLORFUL MOSAIC

One hundred and eighty-five miles across some of the most fertile farm land in central Europe, lay Vienna. In less than two hours we were there—two golden hours crowded with a kaleidoscopic succession of scenes and vistas that not even the master brush of a Corot could rival. If the long flight across Spain to Africa was the most spectacular, surely this all-too-brief trip across Bohemia was the most charming of my aërial travels in Europe.

Overhead, a flawless blue sky, like the image of a serene conscience: below, a marvelous mosaic of cultivated farms in all the ravishing colors of the harvest season. And such an infinite variety of patterns! Dark green-and-purple forest patches standing groomed and orderly; long, narrow, undulating strips of alternating green and gold and brown—new growth, ripening grain, and fresh, upturned earth; a score of greens; delicate shades of henna and silver-fox; gray and blue flashes of water; the white ribbons of roads lost for a moment in the cool shade of timber; tiny teams of oxen on the crest of a slope—while over all the dominant color theme of gold, the gold of the harvest.

It is little wonder that Bohemian character developed, in such a friendly environment.

With real regret I saw ahead the glistening Danube winding off through heavy woods toward Bavaria; then the pilot was calling my attention to a castle just below us. It was the famous castle of Kreuzenstein, set upon a knoll dominating the neighboring countryside, its moat now velvet-green, its battlements upflung in seeming challenge to the indifference of a flying age—a proud symbol of a cruel and chivalrous past.

There came flooding back all my boyhood memories of "Graustark" and "Men of Iron," and I was still lost in reverie when we glided down for a landing at the Aspern field.

PILOT ACTS AS GUIDE, USING PENCILED NOTES

In 20 minutes we were off with a new plane and pilot for Budapest. A heavy-jowled Hungarian, who had taken the place of the Americans who bade us good-bye at Vienna, shared the small compartment of the Potez plane with the Frenchman, who had come from Prague, and myself.

With true French courtesy, our pilot had thoughtfully prepared a scholarly typewritten description of the route, which was mounted on the bulkhead before us, and, together with a roll map case with which we had been provided, it served to shorten the 150 miles that separated us from the Hungarian capital.

As we passed over the old Roman arenas and the châteaux, our genial pilot would shake the plane controls to attract our attention, and several times during the hour and a half he thrust brief penciled notes of comment through the sliding window behind our heads.

But the first glow of the day's enthusiasm was gone, and, even with the pilot's energetic coöperation, could not be recaptured. My spirit was hovering above the Moravian Hills and refused to respond to the unimpressive vista of the broad and level Danube Valley, the yellow tide of the Donau Strom meandering between wooded, uncertain banks.

"*A moitié chemin*," read the pilot's note, and ahead we made out Komorn, a city half Czech and half Hungarian, at

Photograph by Flandrin

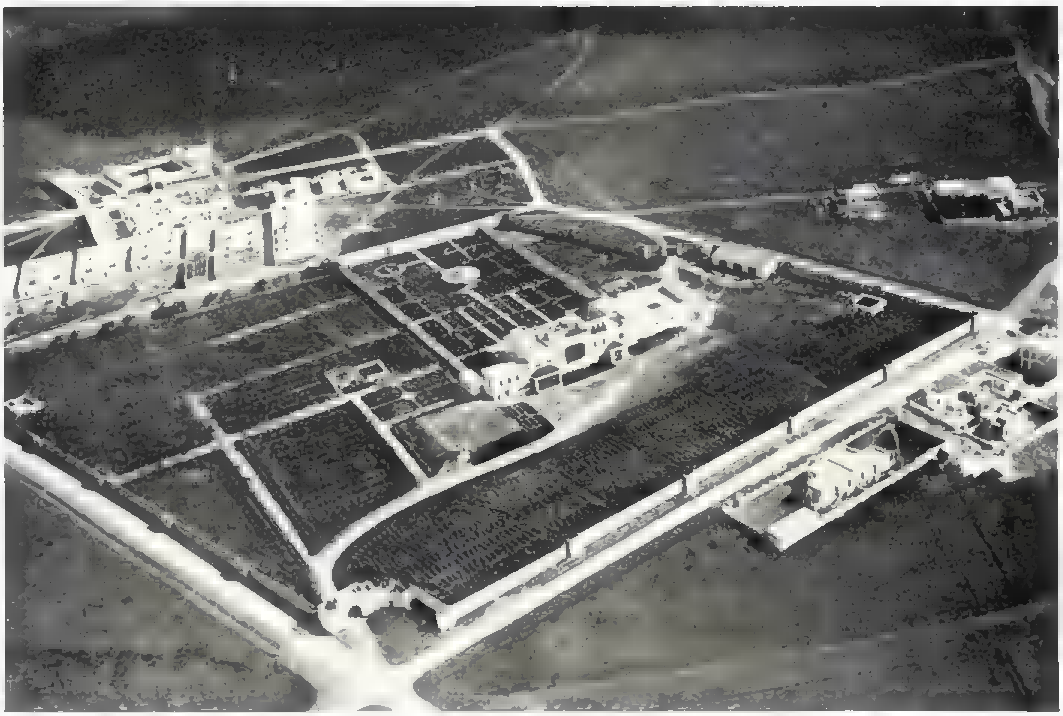
RABAT TO THE LEFT, WITH SALÉ, ACROSS THE BU REGREG, TO THE RIGHT (SEE TEXT, PAGE 287)

Rabat is the chief industrial center of Morocco, carrying on trade with Fez and the interior, with Gibraltar, Marseille, London, and Manchester, and is the official home of French control in Morocco. It was founded in 1184, at which time Salé was already an ancient city.

Photograph courtesy Lignes Aériennes Latécoère

AN AËRIAL VIEW OF CASABLANCA: MOROCCO

"We rush suddenly upon Casablanca, zooming up over the artificial harbor, across the white and yellow houses and ocher-tinted towers. . . . Here is the age-old, immemorial life of the East, a page out of the thousand and second tale of Scheherazade" (see text, page 287). Casablanca was built by the Portuguese, during the latter half of the 15th century, on the site of the once prosperous town of Anfa. Native uprisings eventually necessitated its abandonment. In 1907 the French bombarded the town in punishment for the murder of French and Spanish workmen engaged on the harbor works, and it has been occupied by the former since that time.



Photograph courtesy Lignes Aériennes Latécoère

THE SULTAN'S PALACE AT CASABLANCA

the confluence of the Waag with the Danube. Here the river turns somewhat northward to cut a tortuous course through some farflung foothills of the great Carpathian chain; so we left it, flying, as a bird flies, straight toward our goal.

THREE AIR SERVICES BETWEEN VIENNA AND BUDAPEST

The Hungarian seated behind me clutched my elbow to note something far below us at which he was excitedly pointing; it was another plane, a German seaplane flying low along the Danube, bound back along the course which we had just covered.

Between these two capitals of the former Dual Monarchy, Vienna and Budapest, there are three competing air services—French, German, and Hungarian. Each is subsidized by its country in an endeavor to develop a national aëronautical industry. Of the three, an unbiased estimate must yield to the Germans the best results with the greatest economy.

It was past the lunch hour when we landed at Budapest. Our Hungarian, now on his home ground, lost no time in bidding us adieu and disappearing in the direction of the city; but Monsieur and I had but a scant quarter of an hour to fortify ourselves before taking off in a fresh plane for Belgrade.

A mechanic pointed out the lunchroom, a small stucco building at the far end of a long row of shops and hangars, and to it we hastily made our way. A huge barefooted woman in a soiled calico slip was fussing about a stove, but our demands for food or drink of any kind or quality elicited only a curt, unintelligible response.

Having exhausted our best English, French, and German without avail, we were about to despair when an attractive girl appeared, evidently the daughter of our formidable and unkind opponent. She entered the lists in our behalf, and through her efforts we were supplied with a cup of black coffee and some buns.

Then came the question of paying: *dreissig tausend kronen*, 30,000 Hungarian crowns—a tremendous figure in prewar days, but modest enough, now that a dollar is equivalent to some 77,000.

But I had no Hungarian money, and neither had Monsieur. With praise-

Photograph from Levasseur

BEFORE THE GRAND MOSQUE OF ORAN

This religious edifice was erected by the Moslems to commemorate the expulsion of the Spaniards, in 1792. It was built with money paid as ransom for Christian slaves. Oran lies 220 miles east of Gibraltar and is the second city of importance in Algeria. An air line connects it with Casablanca, France's Moroccan seaport on the Atlantic, and continues on to Alicante, across the Mediterranean, and thence to Toulouse (see map, page 275).

worthy foresight, Monsieur, before leaving Prague, had exchanged some francs for Rumanian lei against arrival in Bucharest, and I was prepared to settle our debts in the coin of at least five different countries. None, unfortunately, was current in Budapest.

"Let me see," I said to the fräulein in my best schoolbook German. "If 18½ French francs are worth an American dollar, and are therefore equal to 77,000 Hungarian kronen, and if 19 Czechoslovakian kronen are equivalent to 100 francs, I must owe you . . ."

At that moment the mechanic opportunely appeared to warn us that the plane was about to leave; I threw down the assorted paper bills in my hand and fled!

A WELTER OF EXCHANGE AND CONFUSION OF LANGUAGES IN CENTRAL EUROPE

It is a mystery how business can be

Photograph courtesy Lignes Aériennes Latécoère

THE CATHEDRAL AT STRASBOURG PRESENTS AN IMPOSING VIEW FROM THE AIR

Among the articles of commerce which are sufficiently valuable to be transported by airplane express is pâté de foie gras, for which Strasbourg is famous. This delicacy is shipped to Prague, Vienna, Budapest, and Bucharest by aircraft.

rationally conducted in this hodgepodge of states jostling each other between the Black Sea and western Europe. Currencies that before the World War were counted in digits now have meaning only in multiples of thousands. Relative values painstakingly learned to-day may become obsolete overnight. To this welter of exchange must also be added the confusion of a score of languages, a constant source of irritation and friction.*

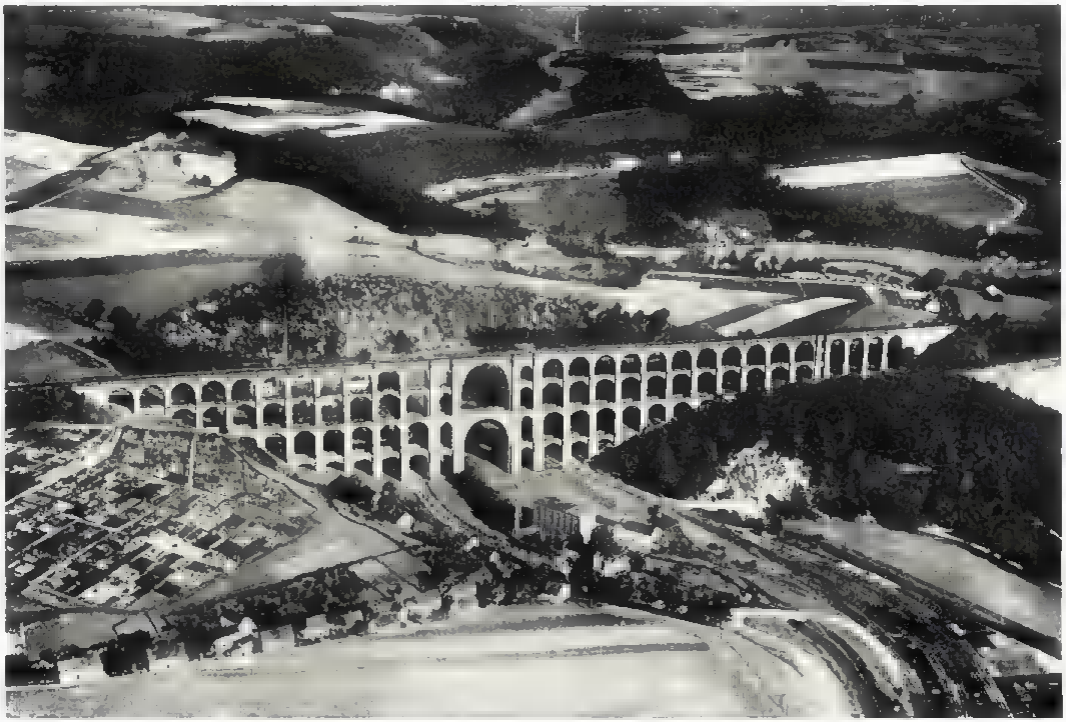
Small wonder, I mused, as our plane sped southward and the glitter of Budapest was dimmed by the haze on the horizon behind us, that this corridor between the Carpathians and the Alps should be the source of so much smoldering hatred and dispute.

There is, too, an even deeper antagonism here, for this is the meeting place of East and West, of indolence and secret privilege, with enterprise and aggressiveness. As the Moravian Hills are the watershed dividing the streams that flow westward from those leading to the Black Sea, so somewhere across this broad Danube corridor lies an invisible, intangible demarcation between the dominance of Eastern and Western ideals.

* See, also, "The Battle-Line of Languages in Western Europe," by A. L. Guerard, in THE GEOGRAPHIC for February, 1923.

A TURBULENT PASSAGE THROUGH A STORM

A sudden severe jolting of the plane, followed by a painfully familiar sinking sensation, forced my attention to the fact that we were rapidly approaching a big rain squall. For some time the pilot had been gradually reducing his altitude and, as we passed beneath the cloud rim, the level floor of the Hungarian plain lay but a few hundred feet below us, softened in the deep shadow of the storm. Fortunately, the squall was traveling our way and raced us along at 120 miles an hour. But the turbulent air was full of "pockets" and "bumps," and caused me to wonder after a time if my hasty investment at the Budapest lunch counter had been perhaps ill-advised.



Photograph by Deutscher Aero Lloyd

REMARKABLE VIEW OF THE RAILWAY VIADUCT NEAR CRIMMITSCHAU, FORTY MILES SOUTH OF LEIPZIG

When for any reason the engine of an airplane ceases to run, the plane does not fall out of control immediately, as is sometimes thought, but continues to fly, the source of power now being gravity, and the path of flight no longer horizontal, but inclined downward by a small angle. Modern transport planes travel forward 10 to 12 feet for every foot descent of altitude; so that if the plane is 2,500 feet in the air at the time of motor failure, it may glide from five to six miles in any direction from the point where the engine failure occurred. It is very rare not to find in a circle of area of this size any field in which the plane may be landed without accident to its occupants. Since the area of the circle increases as the square of its radius, and the radius of the circle available in which to make a forced landing is proportional to 10 or 12 times the altitude at which the plane is flying, it may readily be seen how great is the factor of safety when an airplane is flown at an altitude above a thousand feet or more.

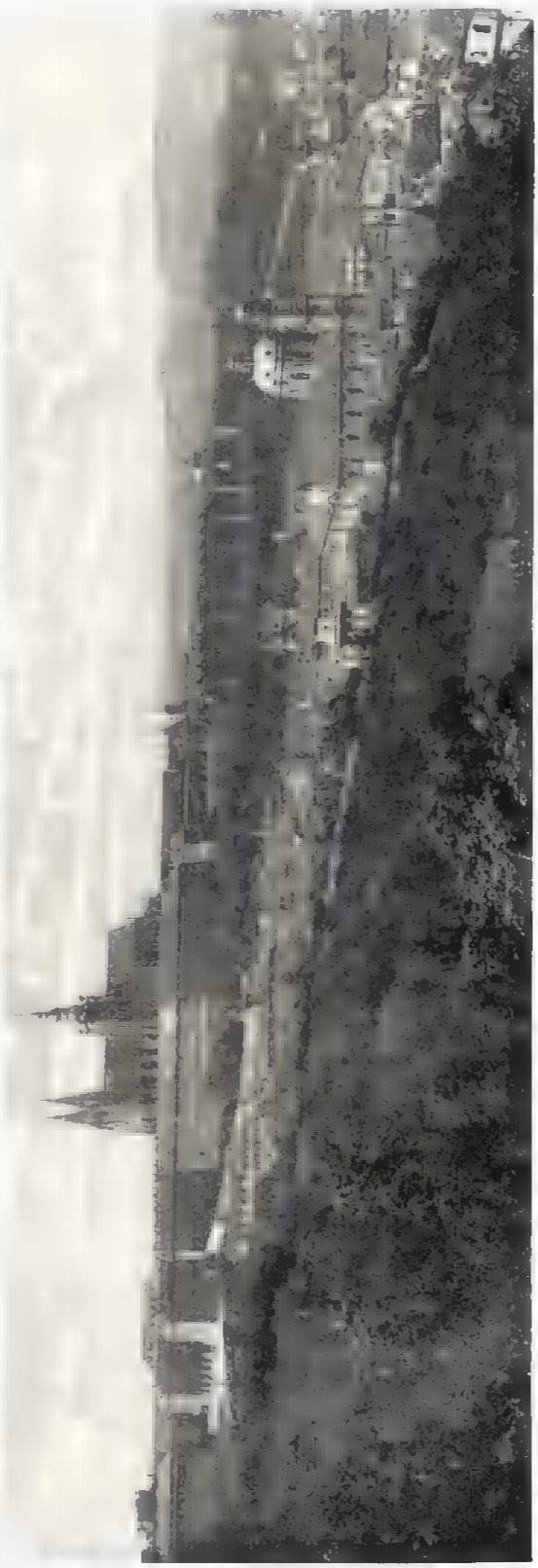
At Kiskunfelegyhaza we overtook the storm center, an awe-inspiring spectacle of Nature's pent-up fury unleashed on a hapless town. The rain lashed the gray roofs below us and ran in torrents through the narrow streets. The black spiral core of the storm threw out wraith-like octopus arms that reached down to the wet, gleaming earth, and clutched at us in sinister fashion as we slipped by to the south. But in 20 minutes we were out of shadowland into sunlight once more, the tumbled thunderheads behind us now gloriously white, towering 15,000 feet into the sky.

Occasional flashes of silver far away to our right betrayed the sluggish Danube making lazily for the sea, and the placid, level fields beneath our wing reflected the eternal youth and purity of Nature after a thousand partial corruptions.

I let my eyes close on this tranquil scene, in involuntary relaxation from the tension of our turbulent passage through the storm. The muffled roar of the engine beat less and less loudly on the drowsy senses, and when I awoke Pancsova aërodrome was rushing up to meet our wheels, with Belgrade at the wing tip across the shallow Danube.

PROCEEDING AT A "SNAIL'S PACE" OF 75 MILES AN HOUR

Five hundred and fifty air miles now lay behind us, while still some 280 miles to the east, beyond the frowning Transylvanian Alps, was our goal, the capital of Rumania.



Photograph by Rudo Bruner-Dvořák

THE FROWNING BULWARK OF THE HRADČANY, OR OLD ROYAL CASTLE, OF PRAGUE (SEE TEXT, PAGE 294)

There was no time to lose, as the afternoon was waning. Hence it was with disappointment that I noted our baggage being loaded into a large three-engined plane, whose obsolete lines gave evidence of an ancient, however honorable, vintage. This plane I darkly suspected could not cruise at much more than 75 miles an hour, at which rate we would be most of four hours and well after dark before reaching Bucharest.

The local field manager informed me that night-flying aids had been installed on the Rumanian section of the route, and that this was the "experimental" plane with which the test flights were to be made.

The announcement, however, failed to elicit any enthusiasm on my part. After traveling all day at nearly 100 miles an hour, the idea of poking along through the deepening twilight in this ancient crate at the absurd speed of 75 miles an hour was very annoying. It is curious how one grows speed-saturated in flying. Then, too, the sight of barefooted workmen tinkering about the high-strung aëronautical engines did not serve to quiet my uneasiness.

For one shamefaced moment I considered renouncing further flight that afternoon. After all, three countries should be enough for one day.

Then the thought of bargaining in some outlandish Serbian tongue for Yugoslavian currency stiffened me for the original venture. Besides, Monsieur, my French companion, had already nonchalantly taken his place in the passenger compartment of the big plane. I resolutely mounted the steps and took a chair by his side. There were accommodations for six passengers, but Monsieur and I were alone.

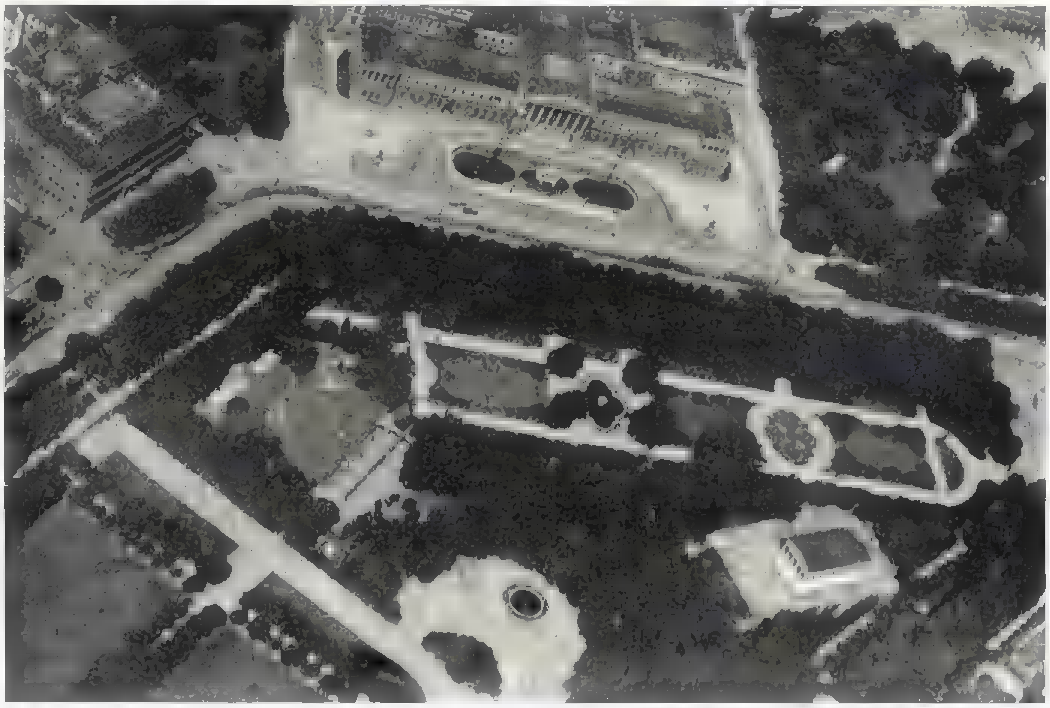
At the forward end of the cabin was a narrow door leading to the cockpit of the pilot and mechanic. A young French lad

Photograph from International

VIENNA, ON THE "BLUE DANUBE"

"One hundred and eighty-five miles from Prague, across some of the most fertile farm land in central Europe, lay Vienna. In less than two hours we were there." (For a description of the Austrian metropolis since the World War, see "Vienna—A Capital without a Nation," by Solita Solano, in THE GEOGRAPHIC for January, 1923.)

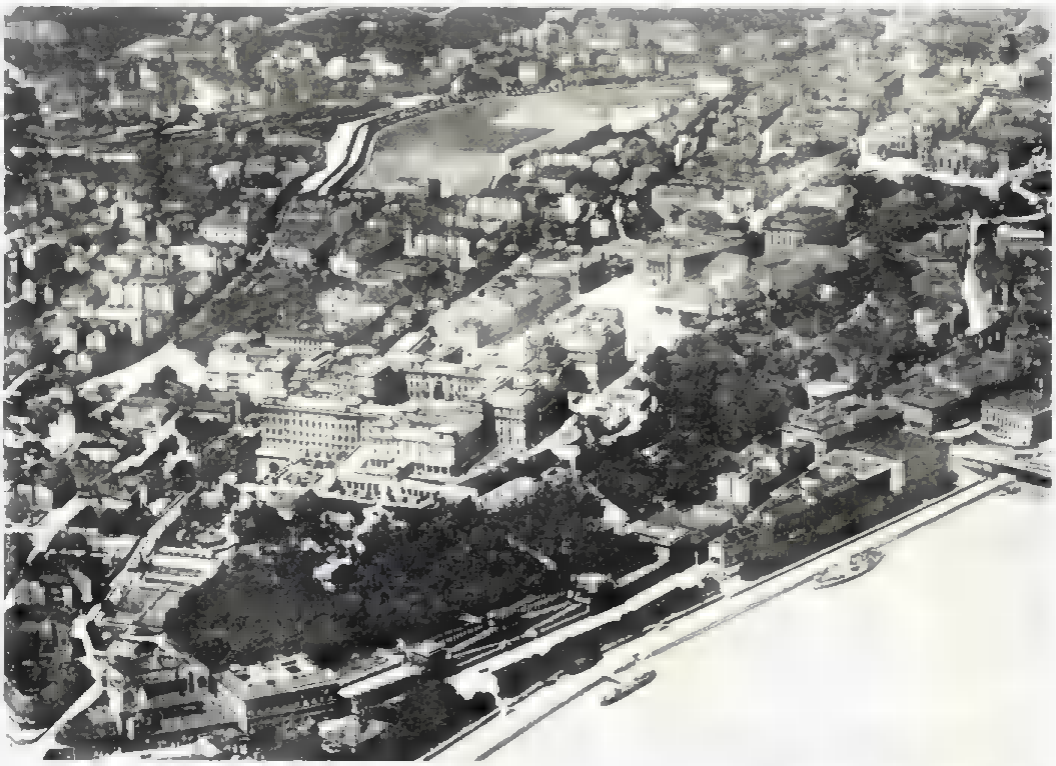
VIENNA'S LOVELY STADTPARK, WITH ITS KURSALON (FOR CONCERTS)



Photographs from Keystone View Co., Inc.

THE AUSTRIAN PARLIAMENT BUILDING: VIENNA

This is one of the most beautiful modern examples of the classic style of architecture in Europe.



Photograph from International

AN AËRIAL VIEW OF HUNGARY'S CAPITAL

Budapest rivals Vienna for civic beauty and orderly arrangement of boulevard and street. Public squares, parks, and artistically planned drives abound. The Danube is seen in the right foreground. The magnificent building in the center of the picture is the Royal Palace, built by Maria Theresa in 1749-71 and restored after a fire in 1849. Many of its 860 rooms are now used for government offices.

in greasy jumpers and leather helmet wormed his way in backwards through this doorway to hand us our passports, which had been duly stamped by the local customs agent, and to ask if the messieurs would be so kind as to take the forward seats, as otherwise the plane would be too tail-heavy.

A COPPER TUBE CRACKS IN MID-AIR

My new position brought me directly beside the engine on the port wing, a Hispano-Suiza from which the cowling had been completely stripped, exposing an alarming number of slender connecting pipes and complicated-appearing accessories. Was it a trick of the isinglass through which I was peering that made that long copper tubing along the base of the crankcase appear to vibrate so badly? Some barefoot workman must have failed to secure it properly.

With a deep-throated triune roar, the big plane plunged across the sandy field and staggered into the air. For the first time in 4,000 miles over the air lines of Europe I was distinctly uncomfortable. That copper tube vibrating in the 75-mile wind held my uneasy attention fixed.

Then I saw it crack. From the broken end there streamed out, under pressure, a liquid which I prayed was only water, but darkly suspected was gasoline. I scrambled up to open the door before me and nudged the mechanic, whose broad back obscured the passage. He took one look and crawled forward hastily to notify the pilot.

In another minute, with engines throttled, we were circling back from the Transylvanian foothills to the Pancsova field, fortunately not yet many miles to the rear.

Half an hour later we were off again, in the same plane, the offending tube having been replaced by a new one that had

Photograph by Erdelyi

THE KITCHEN OF A FAMILY OF THE MIDDLE CLASS IN THE NEIGHBORHOOD OF BUDAPEST

The author, on page 302, tells how such a young Magyar came to his aid and enabled him to buy black coffee and buns near the flying field at Budapest. Owing to the confusion of languages and rates of exchange, the difficult problem of payment was one which had to be solved arbitrarily.

Photograph by Ewing Galloway

THE OUTDOOR PUBLIC MARKET IN BELGRADE, CAPITAL OF YUGOSLAVIA

The Panscova aërodrome, the only scheduled landing field between Budapest and Bucharest, is across the Danube from Belgrade. Formerly the capital of Serbia, Belgrade, after the World War, became the seat of government of the Kingdom of the Serbs, Croats, and Slovenes, with three times the area of old Serbia and with a population of 12,000,000.

OVERLOOKING BUCHAREST, THE "PARIS OF THE EAST"

"That evening, through my window, there floated up the staccato music of hoof beats to the accompaniment of endlessly tinkling silver bells, as the youth of Rumania rode out behind dark-robed Russian cabbies" (see text below).

been secured under the supervision of the chief mechanic. This was the only instance in all my European air travels when a flight was interrupted or delayed by mechanical trouble.

It is curious that it should have occurred in an aircraft equipped with several motors expressly for the purpose of avoiding unpremeditated landings. It would seem that often the presence of additional engines, rather than acting as a further safeguard, actually may multiply the possibilities of interruption, and that the wisest insurance is to employ only the best equipment, maintained at the highest standard of skilled workmanship.

A broad white cloud lay brooding upon the outposts of the Transylvanian Alps, as we swept east 1,000 feet above, and the Danube swung in a wide arc to the south, searching an outlet through this last barrier to the sea. The brown Serbian plain was lost behind us in the glare of the late afternoon sun, while pine-clad, tumbled ranges below us reached up through broken clouds.

A strong wind at our upper altitude urged us forward, but it was already dusk when we crossed the deep-cut gorge at the Iron Gate and bade good-bye to the Danube at Turnu Severin, where it debouches upon the Wallachian plain. An hour sped by and waves of darkness crept down from the mountains massed along our left to flood the fertile fields and drown the last steely glint of the evening sun on the little streams hurrying toward the Danube, now marking the Bulgarian frontier far to the south.

Friendly lights rubbed at the tiny windows in dark wooded patches on the plain, a beacon flare winked eagerly from an emergency field below, inviting us to explore its welcome; then a dull glow against the sky, a checkerboard of myriad flashing signals, and Bucharest lay beneath our wing, a great searchlight spreading its yellow glare upon the Băneasa aërodrome.

That evening, through my window on the Calea Victoriei, there floated up the staccato music of hoof beats to the accompaniment of endlessly tinkling silver bells, as the youth of Rumania rode out

THE POTTERY MARKET IN PITESTI, NORTHWEST OF BUCHAREST

behind the dark-robed Russian cabbies to mark the quiet stars.

Royalty had withdrawn weeks before to the cool seclusion of the near-by foothills; but the street life of the city still throbbed on. Barefoot peasants along the narrow lanes jostled soldiers in slovenly uniform; a gypsy girl in brilliant scarf and rainbow-colored skirt chatted gaily with a group of bearded, dark-skinned men; above the steady rumble of the street rang out the sharp crack of a Russian whip and the warning cry of a muzhik.

DANZIG CAUSES MANY COMPLICATIONS AND HEARTBURNINGS

The unfamiliar sounds lent color to my fancy, and at length, as I fell asleep, there seemed to be spread out before me the whole great length of the Danubian watercourse, with the massive Carpathian chain and the Transylvanian Alps sprawling across it, like a sinister question mark, a symbol of the uncertain destiny of this strange, unstable land.

Seven hundred and fifty miles northwest of Bucharest, as the crow flies, lies Königsberg, the capital of East Prussia, near the shores of the Baltic Sea. An easy day's flight if one cares to make it so, but I chose the more leisurely way, revisiting the capitals that had been little more than glimpsed on the outbound journey, and thence by air via Warsaw to the quaint old city of Danzig, near the mouth of the broad Vistula.

The creation of the Free City of Danzig must have seemed like an ingenious solution to a vexing problem for the weary conferees at Versailles in the spring of 1919. But conceive, if you will, of the City of Galveston cut off from the rest of Texas by a Mexican "corridor," its customs controlled by foreigners. Can you imagine the populace any other than wildly American in sentiment, its people restive and unhappy?

Thus, in Danzig 93 per cent of a population of some 400,000 are Germans, isolated on the one side by the Polish corridor, separated on the other from their relatives and business relations in East Prussia by restrictive customs regulations. Everywhere one meets two customs officers: the Danzig "Free" City agent who takes your money, and the Polish officer who relieves the Danzig agent of it.

Photograph by J. Bulhak

A RELIGIOUS FESTIVAL IN FRONT OF THE CATHEDRAL AT WARSAW

Trains from East Prussia to Germany go through Danzig locked, with Polish guards patrolling the vestibules. It becomes as great an offense to get off a train without permission as to board it without a ticket.

SEABATHERS PARTICIPATE IN A CUSTOMS WAR

One of the amusing aspects of this customs war developed on the shores of the Gulf of Danzig, whither the townsfolk spread during the hot summer afternoons to enjoy a dip in the Baltic or to promenade along the beach.

Zoppot, the Monte Carlo or Coney Island for Danzigers, boasts a pretentious Palace of Sans Souci, which for many years has attracted a host of summer visitors from the Polish hinterland. With a foothold on the Baltic shore, Poland determined to build its own seaside resort; and a rival to Zoppot came to life at Gdingen, just across the invisible wall of the corridor. Here the visitor was to be lured and Zoppot humbled by the simple expedient of a costly visé penalty to any Pole whose preference led him to Free City territory.

But sabotage commenced. Bathers who entered the water innocently enough at Gdingen left it at Zoppot. Guards were stationed at the corridor wall, like "offside" referees at a football game. Finally an overzealous agent shot an Englishman who, while swimming without his

Photograph by Jan Bulhak

THE ROYAL PALACE AND STATUE OF KING SIGISMUND III: WARSAW

Warsaw is an important aviation center, one air line running to Prague, another to Danzig, a third to Lemberg, and a fourth to Krakow. The variety of articles which have been shipped by air is astonishing—everything, from live frogs for experimental purposes, to steel plates needed to complete some contract job. A bear has been shipped from Moscow to the zoo at Berlin; a registered Jersey cow traveled by air from Amsterdam to Paris; a race horse subject to seasickness crossed the Channel by air.

THE CHURCH OF ST. MARY; DANZIG

Begun in 1343 and completed in 1503, St. Mary's is one of the largest Protestant churches in existence. Its massive tower, 248 feet high, is surrounded by ten slender turrets on gables.

Photographs by Deutscher Aero Lloyd

PART OF THE MEDIEVAL FORTIFICATIONS OF DANZIG SEEN FROM THE AIR

Ramparts, bastions, and wet ditches formerly surrounded the entire city, but 30 years ago they were removed from the north and west sides, the trenches filled in, and the area thus freed was laid out on a spacious plan. Much of the great city retains its picturesque medieval character, however, with narrow, winding streets, lofty and elaborately ornamented gables, and balconied windows (see text, page 313).

Photograph from Lieutenant J. Parker Van Zandt

A PLANE ARRIVING AT KÖNIGSBERG FROM MOSCOW WITH SOVIET DIPLOMATIC MAIL

The landing of this plane marked the inauguration of the joint German and Russian passenger and freight air line between Moscow and Königsberg, Prussia. The Soviet Government owns 50 per cent of the stock of the Deruluft Air Company, which operates a daily service connecting Königsberg with Kovno, Smolensk, and Moscow.

monocle, had inadvertently crossed the line, and the English High Commissioner appointed by the League put an end to firearms.

The horrors of this guerrilla warfare were duly impressed on my mind one savage rainy night while traveling by train between Danzig and Königsberg.

Under the circumstances of this article I hesitate to confess my presence on a train, but it really wasn't my fault. Three days before I had wired from Warsaw to reserve a place on the air line, only to be informed that all seats between Danzig and Königsberg were booked for more than a week.

This heavy traffic had seemed a little surprising, but the explanation was not long in forthcoming. The main railway artery, which reaches Danzig from Stettin and continues into East Prussia, passes through the little city of Dirschau at the bridgehead across the Vistula, some 40 minutes out of Danzig. And Dirschau is Polish.

A glance at a map of Europe* reveals the territory of the Free City imbedded like a third molar in the Baltic jaw represented by the Gulf of Danzig, while between its roots lies Dirschau, the strategic railhead for all east-west rail traffic.

Each time a citizen of Danzig wishes to visit his cousins, let us say, in Marienburg, East Prussia, not much more than an hour's train journey away, he must pay $10 for a Polish visé for the privilege of riding five minutes through the narrow apex of land in which Dirschau lies; and in all probability he will have his baggage opened by four different customs officers—that is, unless he circumvents the whole nagging system by traveling by air.

There is an air taxi service at Danzig advertising "Zwanzig Minuten nach Marienburg" (Twenty Minutes to Marienburg), for which, needless to remark, Dirschau is not an intermediate stop; and

* See the National Geographic Society's New Map of Europe, published as a supplement with its Magazine for February, 1921.

Photograph by Deutscher Aero Lloyd

RAILWAY CROSSINGS IN GERMANY, NEAR STETTIN

The value of aërial photography in studying traffic and highway problems is suggested by this view. The French occupation of the Ruhr created an unusual condition at Cologne, where German merchants were practically shut out from all outside markets except as they could be reached by air. As a result of this embargo, very heavy freight shipments were recorded between London and Cologne, including 55 motorcycles and 100 tons of tobacco. For a time the German Government resorted to shipping German paper money into Cologne by sending it first to London by airplane and thence by air back across the Channel into Cologne. This proved highly satisfactory for their purposes until one plane, loaded with many billions of paper marks, had the misfortune to make an emergency landing in a French zone, and thereafter the shipments ceased.

there are busses which will carry one as far as Königsberg—without crossing Polish territory.

I reached Dirschau late at night on my enforced train journey, without a special Polish visé, the dismal light of the long platform revealing the steady downpour of an early autumn rain on the sodden streets beyond. For ten minutes my fate hung gloomily in the balance, while a score of customs officials cross-examined me and pondered whether or not to leave me with my baggage under the dripping eaves.

Finally a kindly Pole, with whom I had struck up a casual acquaintance, assured the unfriendly agents I was a *bona fide* American diplomat, and that grave international dissension might arise were I detained.

Thus I was permitted to continue, after being strongly warned to procure an additional Polish visé before attempting to return. Of course, I earnestly agreed to do so, with the mental proviso that I would not soon again wander so far from the friendly freedom of air travel.

THE PROSPECT OF A RACE OF AËRIAL COMMUTERS

In contrast with this harrowing tale, the journey back to Danzig by air was idyllic. It was early morning, and the rising sun threw splashes of color on the green meadow through scattering clouds that overhung the Königsberg field. The Nord Europa Union monoplane to Riga and Helsingfors was the first to get away; then the big liner for Smolensk and Moscow, carrying the Russian courier and several hundred pounds of diplomatic mail (see page 317).

Photograph by Deutscher Aero Lloyd

FOREST CONTROL BY AËRIAL PHOTOGRAPHY

The German Government and municipalities exercise a close control over the forest districts under their jurisdiction. The accompanying picture illustrates the use of aërial photography in the study of different types of growth and in recording the development of young timber.

A few minutes later we took off in a metal limousine plane, scudding before a following wind across the ivy-covered university where Kant once taught.

The streets were bedecked with flags for the anniversary of von Hindenburg's defeat of the invading Russians in the swamps of East Prussia. Most of these flags were the old imperial black, white, and red; here and there, occasionally, the symbol of the new democracy—black, red, and gold, the flag of the revolutionists of 1848—was rather furtively displayed.

Where the Pregel empties into the landlocked finger bay of the Frisches Haff, the sun withdrew for a time behind a misty wall and "the hooded clouds, like friars, told their beads in drops of rain." A beautiful rainbow loop formed beneath us, thrown out, as it were, from our whirling propeller and curving upward to our opposite wing tip, like a magic golden ring, through which we sped above the sandy strip along the Baltic shore.

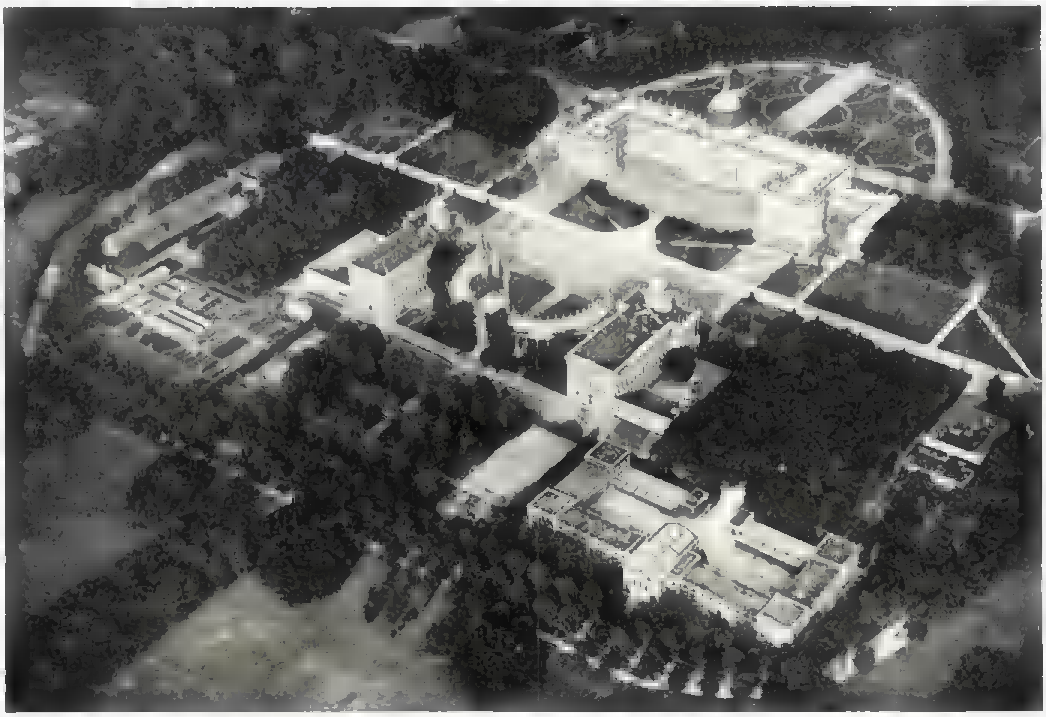
The muffled roar of the engine penetrated but little into our comfortable cabin, and my German traveling companions engaged earnestly in some business conversation, wasting few glances on the placid scenes unrolling beneath our feet.

It may be, when a race of aërial commuters has been created, that many will fly, as they say in the "Bhagavad-gītā," like a spoon through soup, without perceiving the flavor thereof. But flight is an esthetic experience, as the quickening spectacle of Nature must always be, "full of a serious sadness and a large peace."

AIRCRAFT TO PLAY IMPORTANT RÔLE IN ENRICHING LIFE

The toy fishing vessels rolling in the trough of a Baltic wave; the tiny figures of fishermen on the white sand stretching out their dark nets; sudden silver gleams from wheeling gulls; the rich green meadowland edging the blue lagoon—such scenes stir the fancy and enrich the mind.

Indeed, aircraft are destined to play an important part not only in the ordering, but in the enrichment, of life; for they



THE EX-KAISER'S FORMER PALACE AT POTSDAM PHOTOGRAPHED FROM THE AIR

Photographs from International

THE HOME OF THE REICHSTAG, IN BERLIN

To the left is the Königsplatz, photographed from the German passenger dirigible *Bodensee*.

Photograph by Deutscher Aero Lloyd

LOOKING DOWN UPON THE BRANDENBURG GATE, TOWARD THE TIERGARTEN, FROM AN AIRPLANE ABOVE UNTER DEN LINDEN: BERLIN

The city of Berlin has recognized that its present airport at Staaken, 12½ miles out, is too far from the center of the city, and it has donated Tempelhofer Feld, a military parade ground only a few minutes by taxi or street car from Unter den Linden, to be made into a municipal aërodrome. Among the European peoples, the Germans seem to take most naturally and readily to air travel, then the Dutch and English, and last of all the French. Nevertheless, of the four countries, the French Government is spending considerably more than any of the others to encourage and build up a commercial air transportation industry.

contribute to our control over our environment, which is the fundamental value of all natural science.

In an hour the red-tiled roofs and narrow streets of Danzig lay beneath us, the massive monument of the Church of St. Mary, with its "Dunkle Giebel, hohe Fenster" towering above its neighbors (see illustration, page 316). We glided down for a landing at the Langfuhr municipal field, to await the connecting plane from Warsaw before pushing on to Berlin.

Reflection upon esthetic experience must often remain abortive or incoherent, yet there is one quality I would express

Photograph by Royal Dutch Air Service

THE CENTRAL STATION OF AMSTERDAM, WITH THE HARBOR IN THE BACKGROUND

The Zuider Zee may not always be one of the charming sights of a flight between Berlin and Amsterdam, the commercial capital of Holland. Dutch engineers are busily at work planning to shut off this inland sea and to pump much of it dry, thus adding another large section to the portion of Dutch territory now below sea level. If this project is successfully carried through, the little island of Marken may lose its unique character as a bit of the old Holland where native costumes are still worn, and its sanctuary will be violated by passing automobilists.

Photograph by Royal Dutch Air Service

A VIEW OF THE RIVER MAAS (MEUSE) AT ROTTERDAM

The fleet of tugboats in the right center is engaged in towing a dry-dock beneath the two bridges. With more than half a million population, Rotterdam is second only to Amsterdam in size among Dutch cities. It handles more than 60 per cent of the shipping of Holland.

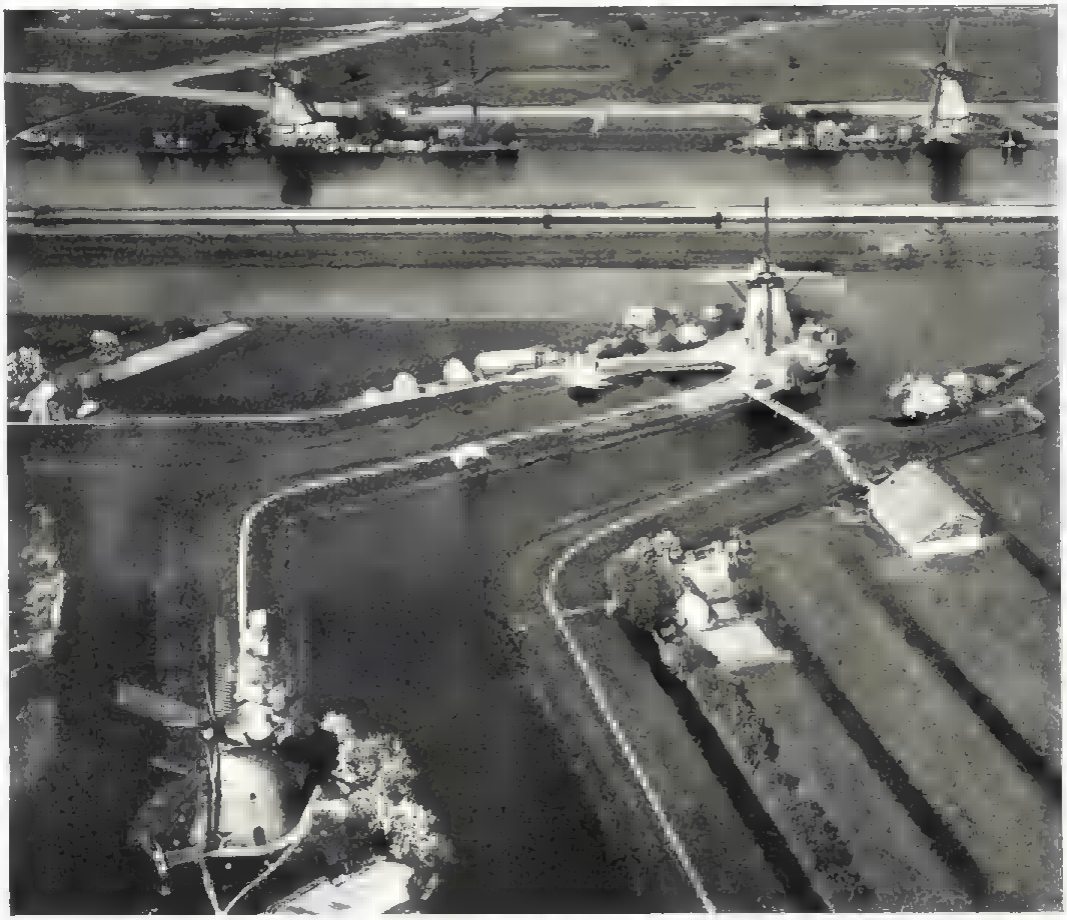
Photograph by Royal Dutch Air Service

SAILING RACES NEAR ALKMAAR, NORTH OF AMSTERDAM

Official Photograph, U. S. Army Air Service

AN AËRIAL VIEW OF THE MUNICIPAL AIRPORT AT ROTTERDAM, HOLLAND

In the center may be seen the hotel and restaurant. This field was established and constructed wholly at the expense of the municipality, on reclaimed ground, in connection with its port development projects, and is one of the model aërodromes of Europe. Note the shadow of the plane in the right foreground.



Photograph by Royal Dutch Air Service

A VIEW OF POLDERS (SECTIONS OF ARTIFICIALLY DRAINED LAND) AND WINDMILLS NEAR RIDDERKERKE, IN THE NEIGHBORHOOD OF ROTTERDAM

if I could. The freedom of flight represents in a real, objective sense a partial removal of the ordinary checks and restraints that normally impose themselves between our will and our actions, between impulse and event. There is a temporary harmony with one's environment where momentary preference may be indulged without opposition.

This is, of course, only a limited freedom, but it is, nevertheless, a partial, however elemental, approach toward that adequacy and perfection which is commonly designated as omnipotence. In this fact may lie some explanation of the deeper esthetic satisfaction that lingers long in the memory after a particular flight is past.

But "to feel beauty is a better thing than to understand how we come to feel it."

It is September and I am in London again, having flown over from Amsterdam this morning, across the dikes and tulip beds of Holland, with a company of Dutchmen in a monoplane, thus completing 6,500 miles of looking down on Europe. Europe is big, but not so big that with such a vantage the mind cannot retain a vision of the whole line and contour of it—a vibrant, living picture.

A VISION OF EUROPE

One learns without conscious effort the geographical origin of so much of Europe's history; the inevitableness of misunderstanding and conflict where political lines have been flung recklessly across mountain and watercourse, now throttling an isolated valley, now barring an ancient people from their natural outlet to the sea.

There comes flooding back the vision of castellated battlements along the Dan-

Photograph from Lieutenant J. Parker Van Zandt

AN ELEVEN-SEATER COMMERCIAL AIRPLANE EQUIPPED WITH A 450-HORSEPOWER NAPIER ENGINE

This is a type of plane used in the air service between London and Berlin, Cologne, Brussels, and Amsterdam. Freedom from breakage and theft is an important factor contributing to the growth of air express traffic on European air lines. Fragile goods, vases, and other articles are dispatched by air in order to be sure of careful handling. Insurance rates covering all risks on shipments such as dresses, furs, jewelry, fragile goods, light machinery, etc., between London and the Continent are less by air than by boat or rail. Much gold and silver coin and metal is shipped by air across the Channel. One plane, for example, from London to Amsterdam carried two million dollars' worth on a single flight.

ube bank; of castles nestling in the German hills; of châteaux, half hidden in poplars, stepped up like organ reeds against the warm colors of the French countryside; of ripening grain on the Moravian slopes under a late afternoon sun; and of the bold, free sweep of the Mediterranean, stretching out in tranquil beauty to an unreal horizon.

But the real, luminous beauty of Europe seen from above cannot be phrased. It is there, now happily within the reach of every arrant lover of living, this precious gift bestowed by flight. But the deeper wonder of it is of the nature of things which talk does not easily pursue; in the end it remains something incommunicable, irrational, and final.

ACROSS FRENCH AND SPANISH MOROCCO

By Harriet Chalmers Adams

Author of "Adventurous Sons of Cádiz," "A Longitudinal Journey Through Chile," "Rio de Janeiro, in the Land of Lure," etc., etc., in the National Geographic Magazine

IT WAS a spring evening when our train from Oran, in western Algeria, rolled into the town of Ujda (Oudjda), just over the French-Moroccan border. We were entering this land of romance and mystery by the back door. The new front door is at Casablanca, chief harbor of the Protectorate on the Atlantic seaboard (see map, page 331).

It had been our intention—my sister's and mine—to sail from Oran to Gibraltar and down to Casablanca. Souli Mohamed was responsible for the change of plan.

Souli Mohamed is the smiling, white-turbaned Moor who fills the trying post of head porter at the hotel in Oran. It was he who suggested the Ujda route.

"Fez? Yes, I know it," he told me in Spanish. "It is the home of my father. From Fez to Casablanca there is now a railroad—fine, big cars, like the ones which run from Oran to Ujda; but between Ujda and Fez there runs only a very narrow train, on which none but the soldiers may ride. Why do not the Señoras travel by automobile from Ujda to Fez? The barber across the street will sell them tickets."

That settled it. We had bought stamps at the tobacco shop and gluten bread at the chemist's, but it would be a new experience to buy automobile tickets from the barber.

Monsieur-the-barber came from Bordeaux and spoke only French. Madame, his pretty, plump wife, a Jewess of Oran, spoke Spanish, the tongue of the Jews of Oran and of many of the Children of Israel native of North Africa.

This automobile service, we learned, was maintained by Madame's brother in Ujda. It was a "jitney" line, in no way connected with the big French company, the French touring cars, or the chain of French tourist hotels operated throughout North Africa. We were, in fact, the first foreign travelers to apply for passage. The line was patronized by Moors and Algerians, by Oran Jews and an occasional French commercial traveler. We should meet no tourists and many natives.

And the motor cars? "*Très, très bonne*," Madame assured us. There was triweekly service, she said, and each passenger could carry 60 pounds of luggage. It required one long day's travel from Ujda to Fez. Should she make the reservation by telegraph? . . . It was agreed. We went back to the hotel to pack the most of our luggage for shipment by sea to Gibraltar.

ORAN IS BECOMING AN AFRICAN CHICAGO

Oran, 261 miles west by rail from Algiers, is on its way to become an African Chicago. Distinctly modern in appearance, despite its rich historical background, it is rapidly gaining commercial importance in the export of cereals, wines, olive oil, cattle, and hides. The Oran Bay, which once knew corsair galleys and for three centuries sheltered Spanish craft, is to become Algeria's chief naval base.

Back of the city lies a fertile agricultural region settled by French colonists; and still farther back, beyond the high plateau, that little-known division of French Africa called the Southern Territories. To the northern edge of this arid hinterland the Algerian State Railway has penetrated, to and beyond the palm-studded oases of Figig (Figuig) and Colomb Béchar, more than 400 miles inland from Oran, on its arduous way across the vast Sahara to the French Sudan.

It is difficult to realize, even in this age of swelling empires and shifting frontiers, that Greater-France-in-Africa is to-day 20 times larger than France-in-Europe. Second in size comes Great Britain, with a territory 30 times larger than the British Isles.

Before starting across French Morocco, let us take a panoramic view of its land and sea boundaries. Beginning on the east and swinging around the circle, we have: Algeria, French; Southern Territories (really the northwestern Sahara), French; Rio de Oro and Ifni, Spanish; the Atlantic Ocean; Spanish Morocco;

Photograph from Levasseur

AFTER A SNOWSTORM IN THE OUTSKIRTS OF TLEMÇEN, ALGERIA

With an elevation of 3,000 feet above sea level, Tlemçen is a health resort, popular among the French residents of the North African coast.

and a bit of the Mediterranean Sea, where French Morocco "comes up to the blue" between Spanish territory and French Algeria.

Were we to fly over the country, looking down on its sloping coastal plains, snow-capped mountain chains, and stretches of tawny desert, we should see that the ranges of the Atlas, higher here than in Algeria or Tunisia, traverse it from southwest to northeast, protecting the northern temperate region from the hot winds of the Sahara.

West to east through the Spanish zone, paralleling the Mediterranean, extends the maritime chain of the Atlas known as the Riff. It is through a depression between the Riff Range and the Middle Atlas that the road from Ujda to Fez runs. Ages ago, before the existence of the Strait of Gibraltar, the waters of the Atlantic flowed through this depression to mingle with the waters of the Mediterranean.

French Morocco, which the French call *Maroc*, is, roughly, the size of the State of Texas; Spanish Morocco, known to the Spaniards as the *Marruecos*, is about as large as Massachusetts. Up in the northwest corner, nearly encircled by Spanish territory, is an area more than twice the size of the District of Columbia

STRANGE PARTNERS TILLING THE FERTILE SOIL OF NORTHERN ALGERIA

South of Oran lies a productive agricultural region settled by French colonists, but farther back, beyond a high plateau, lies the little-known division of French Africa known as the Southern Territories.

given over to an international zone. Here Tangier lies.

FIELDS OF NARCISSUS, IRIS, AND MARIGOLD GROWING WILD

I should like to follow the spring longitudinally up and down the world! When the leaves are falling in Argentina and South Africa, it is blossom-time in the United States and along the Mediterranean.

Spring had come in a flash to western Algeria as we journeyed those eight hours by rail from Oran to Ujda. The terra-cotta soil contrasted pleasingly with the verdant fields. Vineyards alternated with grain fields and orchards, the fruit trees a perfect glory of white, pink, and mauve. The almond is indigenous to this country.

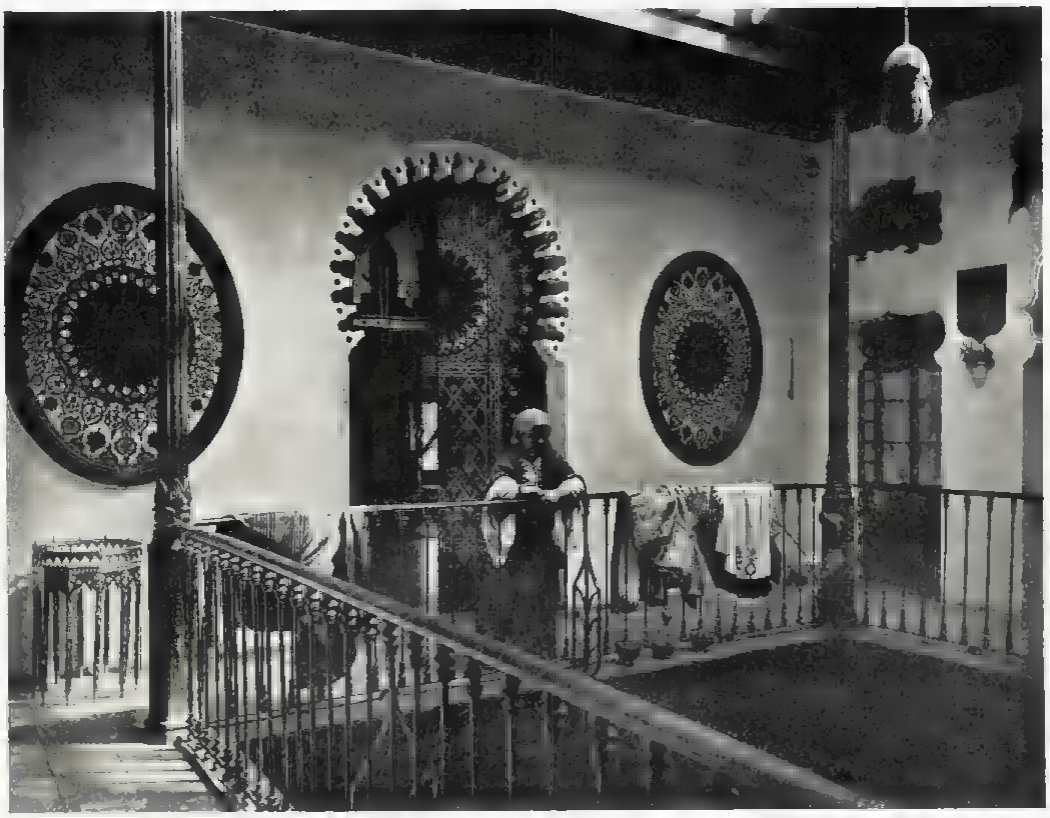
And the wild flowers! I had read that in the springtime Morocco is carpeted with wild flowers, and this magic carpet, it seems, stretches eastward into Algeria. There were bluebells and slender pink lilies, starry daisies and brilliant marigolds. Lupine grew beside the red-pink clover. There were marshes gay with purple iris and fragrant white narcissus, which we cultivate at home.

Turbaned farmers, in flowing white robes, were at work in the fields. I saw a type of haystack new to me, plastered with mud as a protection from rain. In shape it resembled the ancient Mayan buildings seen in southern Mexico and Central America—pyramidal, built up in steps. Perhaps it is Berber in origin and has survived the series of invaders—Phœnician, Carthaginian, Roman, Vandal, Arab—who drove the earliest agriculturists to the hills.

Near the native villages, with their blank white outer walls and their inner courtyard walls of vivid blue, lay the creamy red-tile-roofed villas of the French colonists. Paralleling the railroad track ran a gleaming white metaled highway, as well built as any road in France.

ALGERIA HAS BECOME ALMOST A PART OF FRANCE ITSELF

In the dining car, at luncheon, I saw two young Algerians wearing European



Photograph by York and Son

THE UPPER STORY OF A MOROCCAN HOUSE

clothes and red fezzes, drinking native Royal Kébir wine. Across from them sat a stately old Arab, in snowy robes and high turban, sipping black coffee, too good a Moslem to drink wine or spirits in any form.

Up, up we climbed toward the plateau, with charming vistas back on this new agricultural France-in-Africa, so closely linked with the motherland by fast steamer from Marseille. After nearly a century of French rule, Algeria is virtually a part of France itself, sending representatives to the government in Paris. Here military officials are subordinate to civilians. Morocco, so recently brought under French control, has, as we shall see, a very different status.

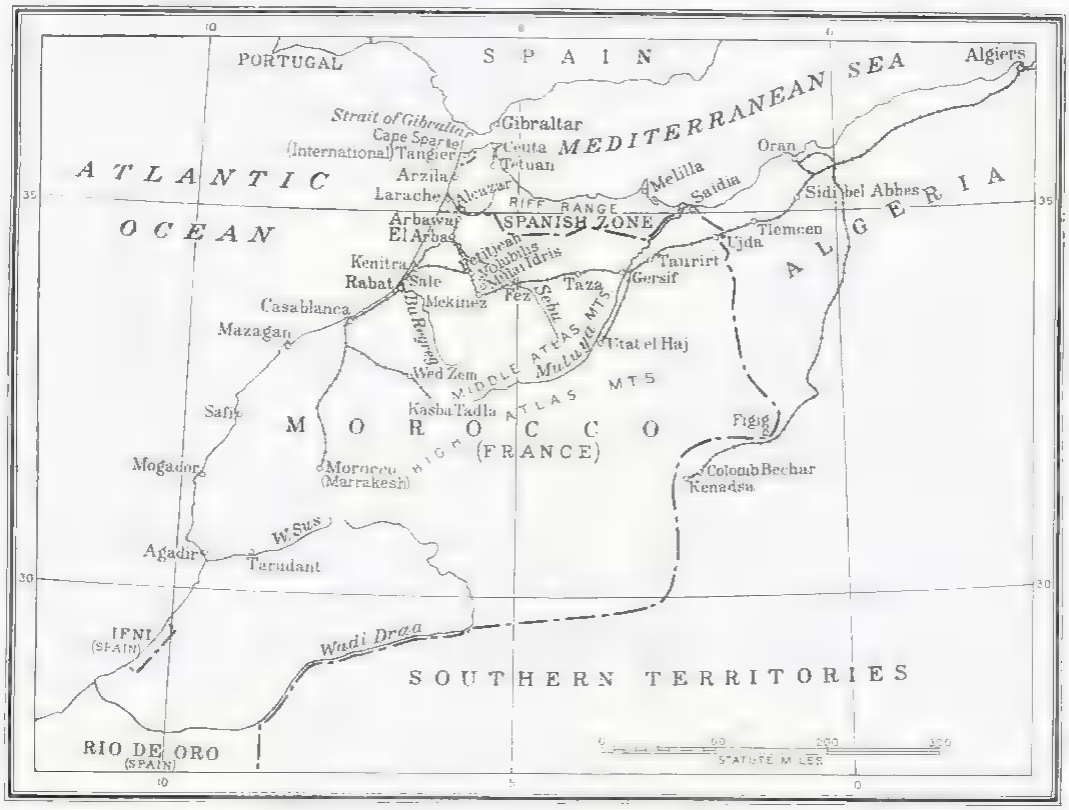
TWO TOWNS PERMEATED WITH THE SPIRIT OF HISTORY AND ADVENTURE

The two Algerian towns that stand out in my memory of that day's journey from Oran to the Moroccan frontier are Sidi-bel-Abbès and Tlemçen.

The former is one of two Algerian depots of the Foreign Legion. Here men of varying nationalities—French, British, Russian—left the train on the last stretch of their journey to join a service full of hardship and adventure. For years no other ties might claim them.

Tlemçen, although within Algerian territory, is Moorish in its history and architecture—a pure type of Islamic town. Set on a hillside 3,000 feet above the sea, surrounded by olive, carob, and terebinth trees, the native city looks down on the outspread French settlement and over the plain which stretches to the Mediterranean. Near by are strewn the massive red-walled ruins of bygone civilizations.

Here the Romans camped. From here they marched, over the road we were to follow, to found their westernmost military post and granary at Volubilis, beyond Fez. Here, nearly twelve centuries ago, the followers of Mulai Idris, founder of the first Mussulman dynasty in Mo-



Drawn by James M. Darley

A MAP OF FRENCH AND SPANISH MOROCCO

The author traveled from Oran, on the coast of Algeria, to Ujda by rail; from Ujda to Fez by motor; from Fez to Casablanca by rail, and from Casablanca, by way of Rabat, Kenitra, Arbawa, Alcazar, Larache, and Arzila, to Tangier. French Morocco is about equal in area to the State of Texas, and Spanish Morocco is the size of Massachusetts.

rocco, built a city near the deserted Roman camp.

To Tlemçen, from the west, swept the Berber hordes who conquered Spain. For this pearl of El Moghreb el Aksa, "Farthest West" of the Moslem world, the Spaniards of Oran and the Turks of Algiers fought, and the Turks won. Then came the French.

From the station in Ujda we made our way by automobile to the little hotel across the street from the "jitney" garage. We were to start at four in the morning!

AN EERIE ENTRANCE INTO OLD MOROCCO

Half a dozen small boys hung to the running board, jabbering Arabic and laying hands on our luggage. Neither Spanish nor French proved effective, but the brother-in-law of Monsieur-the-barber came to our rescue with a club.

I cannot describe Ujda. It was dark when we entered it and dark when we left it. Our start on the long day's journey was made before daylight, in a torrential downpour. No more eerie entrance into Old Morocco could be imagined. The shadowy figures passed on the highway in the gray dawn—hooded, shrouded in ghostly white, creeping along with their flocks or prodding their laden donkeys—seemed to belong to an age long past.

The realization came to me that these secluded people, who, until a few years ago, had not dreamed of a world beyond their archaic hills, nor seen a wheeled vehicle, had been brought, in one great leap, face to face with civilization in its most advanced stage—the railroad, the automobile, the airplane.

I had a feeling of gratitude that we had not come to inland Morocco too late. Here, little changed since prehistoric

days, were the ancient Berber people. Here, right in the automobile with us, were natives taking their first ride!

I have met travelers who have journeyed under more comfortable circumstances to Fez. I cannot agree with the wife of Monsieur-the-barber about her brother's automobile being *très, très bonne*. It was, in fact, the most uncomfortable and unreliable "jitney" it has ever been my misfortune to encounter (see illustration, page 343); but, to an inquiring geographer, our fellow-passengers were all that could be desired.

A MOTLEY GROUP OF PASSENGERS

On the front seat, next to the French-Algerian driver, sat a commercial traveler, a modern Jew from Oran, with whom we spoke in Spanish. He knew Arabic, but, like ourselves, was ignorant of the native Berber tongue spoken throughout Morocco. Next to him sat an altogether different sort of Jew, one of the Old Testament type, whose ancestors drifted to North Africa along with the Phœnicians, a thousand years before the birth of Christ. His name was Shimo.

Unlike the Jews descended from Spanish exiles in the days of the Christian-Moslem wars, he knew no Spanish and only a few words of Arabic. I think he spoke a mixture of ancient Hebrew and the Berber tongue. He wore flowing garments, like the Moors, but his outer cloak was dark-blue instead of the Moorish white or brown. On his head was a high, brimless, black felt cap, shaped like the red fez worn in most Moslem countries. This cap was covered with a strip of the white muslin which was also wound about his neck.

With us, on the middle seat, sat a woman traveling alone. We judged her to be a blend of French-Algerian, Turkish, and Berber. She wore European clothes, was unveiled, spoke French, and said that her husband was a merchant in Ujda. It was through her knowledge of the Berber language that we became acquainted with the three men who occupied the back seat.

They were Berbers and looked and dressed alike. Their skin was swarthy, features rather flat, eyes small and brown. They wore black pointed beards, in the Moslem fashion. Loss of beard is the greatest humiliation that can be put on a devout Mohammedan.

Their shaven heads were wound, turbanlike, with strips of creamy cloth, and flowing *djellabas* of cream-colored woolen homespun enveloped them. This hooded garment is of Berber origin. Heelless slippers of lemon-colored leather encased their bare brown feet.

They would have nothing to do with the old Moroccan Jew, whom they called "Jehudi." He was not a True Believer. He, in turn, ignored them. The two strange foreign ladies they called "N'zrani" (Nazarenes) and seemed greatly to admire my sister's golden-brown hair.

They told the lady from Ujda that this was their first motor ride; that they liked it, but wished they were in front, where it was easier to jump out.

Language may be the closest link toward better acquaintance; but when a laden automobile skids into the ditch there is no further need of formality. We met with three such experiences between Ujda and Taza, where the splendid metaled highway begins. Up to this point we followed the *piste*, or dirt road—in reality nothing more than the old caravan trail, widened and somewhat improved.

TRAVELING SAFELY ALONG A LANE BETWEEN HOSTILE TRIBESMEN

We were crossing a newly conquered country. The road parallels the narrow-gauge railway which brings the soldiers to the forts along the line. These little white forts, guarding highway and railroad, are placed at regular intervals, with larger garrisons between.

Some 30 miles to the north are the rebellious Riff tribesmen, not yet subdued by Spain (see page 355); some 30 miles to the south are the remaining Berber tribesmen, not yet on good terms with the French; yet through this narrow lane, between enemy lines, the traveler can go in safety—that is, if he chooses a good automobile and a careful driver.

Fortunately for us, the dirt road, very muddy and uneven that day, merged with the hard, rough desert. When we came to grief in the mud, we took to the desert. It was not the type of wilderness we had pictured, of sand dune and mirage. This lies beyond the Atlas. Here were cacti

WHITE TANGIER FRAMED BY A COBALT SEASCAPE

Phoenicians, Carthaginians, Romans, Arabs, Portuguese, English and French have occupied this, the oldest place of recorded habitation in Morocco. It is extremely difficult to take "snap-shot" natural-color photographs, but the sky was so clear here that the camera artist succeeded in making this instantaneous exposure from his steamer.

© Autochromes Lumière by Gervais Courtellemont

THE HOUR FOR TEA IN FEZ

The chief beverage of the Moroccans is served very hot and very sweet, flavored always with mint. The principal native dish of the country is *couscous*, a kind of dry porridge made of ground wheat stewed with mutton or chicken and pieces of pumpkin.

©

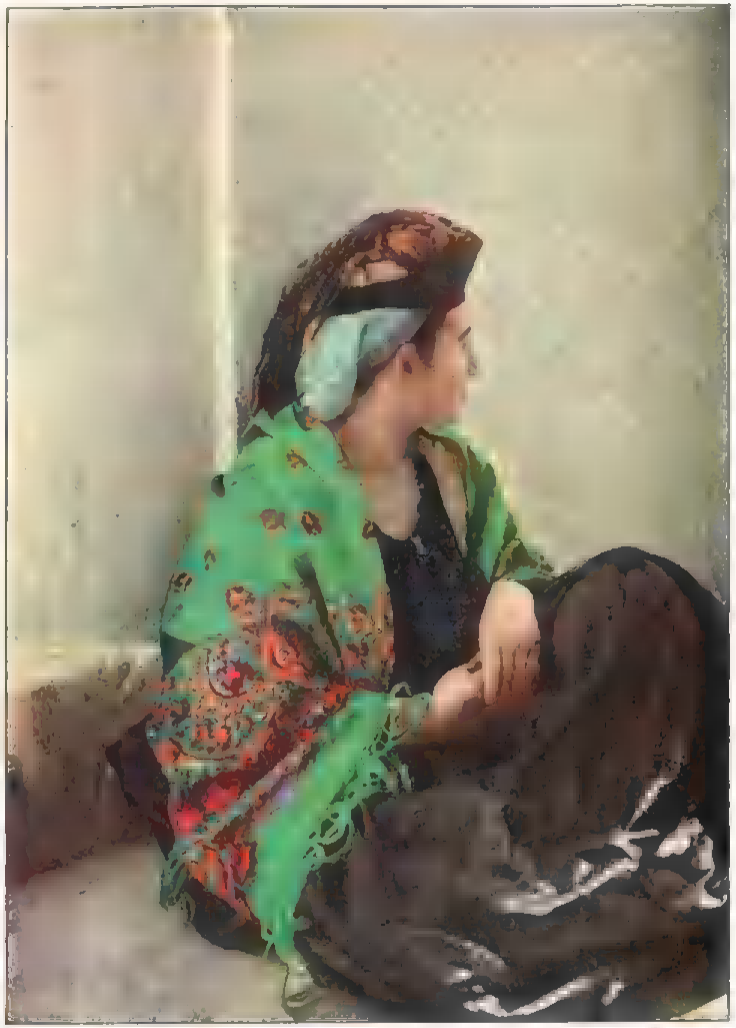
Autochromes Lumière by Gervais Courtellemont

A LEATHER MERCHANT OF RABAT

Morocco has given its name to a fine quality of goatskin which is tanned with sumac or subjected to chrome tanning and dyed on the grain side. The process is supposed to have been invented by the Moors. The famous Cordova leather of Spain is also a Moslem industry.

JEWISH WOMEN OF FEZ

The shawl, a badge of the Jewish woman, is frequently costly, an heirloom coming from the Far East. This mother and her daughter wear no stockings, but their feet are incased in the heelless leather slippers which are worn throughout Morocco.



©

Autochromes Lumière by Gervais Courtellemont

A MOROCCAN DAUGHTER OF ISRAEL

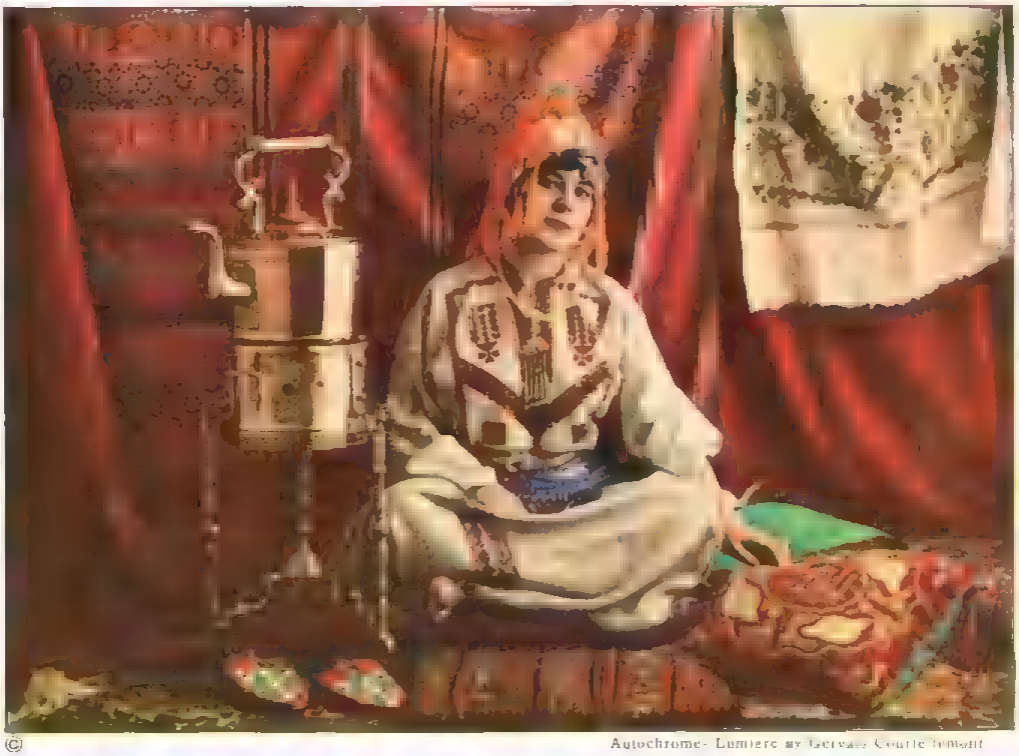
There are two types of Jews in Morocco—those whose ancestors came from the East in early Semitic invasions, and those descended from the Jews of Spain who reached Africa when and after the Moslems were expelled from Europe. These latter speak an ancient Spanish dialect.

A BERBER MAID FROM THE ATLAS MOUNTAINS

The Berbers are the original Moroccans, who were driven into the mountains by succeeding invaders—Phoenicians to Moslems. This young girl is wearing a white woolen homespun garment, and her people's traditional headdress which suggests the casque of the ancient Greeks.

A JEWISH CLOTH MERCHANT OF FRENCH MOROCCO

It is estimated that the Jews of French and Spanish Morocco number only about 150,000, but they play an important part in the life of both countries, for they are the chief merchants and money lenders of the cities.



© Autochrome Lumière ay Gervais Courtellemont

PRESIDING OVER A SAMOVAR IN MARRAKESH

French Morocco boasts four capitals—Fez, Mekinez, Marrakesh and Rabat—in each of which the Sultan has a palace. The seat of government, however, is at Rabat.

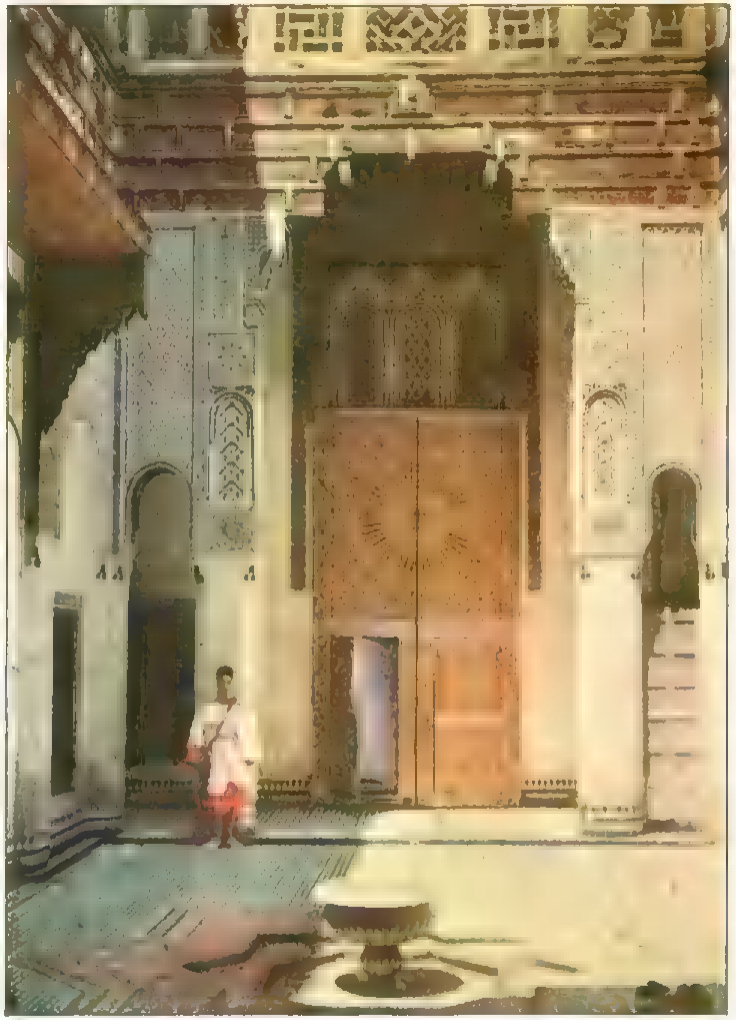
APPRENTICES IN ILLUMINATION

In this native school of arts and crafts, in the old Moorish quarter of Rabat, children are taught to paint the old Arab designs, familiar in Granada and Seville, in gold and blue and vermilion.

© Autochromes Lumière by Gervais Courtellemont

JEWISH AND MOSLEM WOMEN AT THE FEZ HOSPITAL DISPENSARY

While the Moslem women are veiled, the Jewish women invariably cover their heads. Beneath the white woolen outer garments of the former, bright-colored cotton gowns are worn.



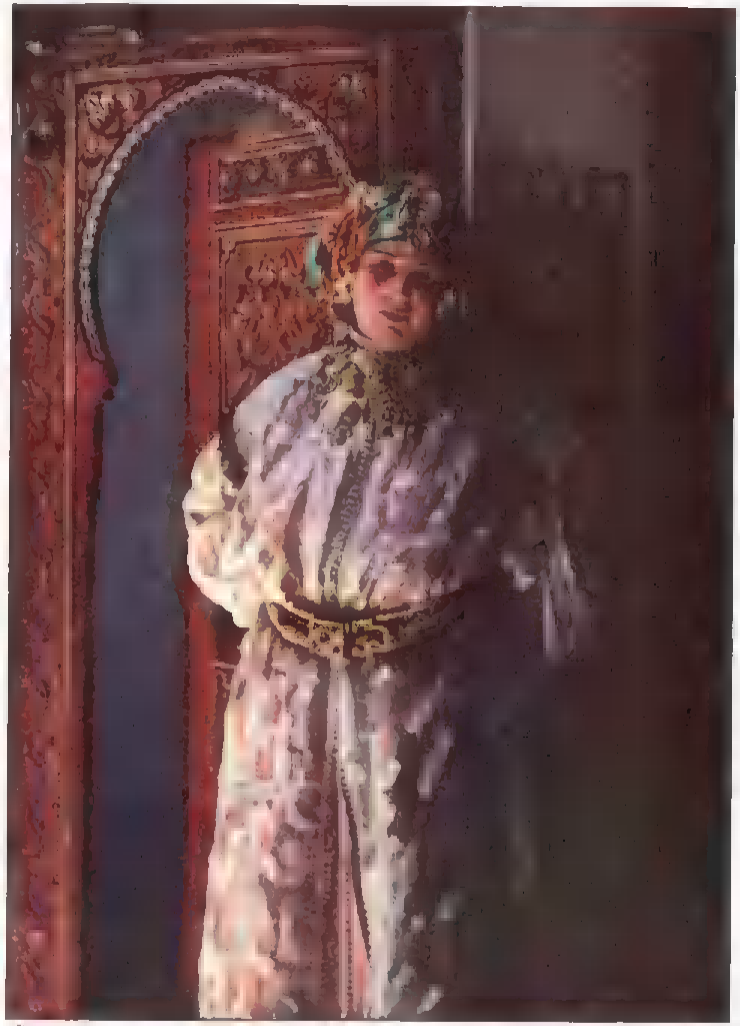
Autochrome. Lumière by Gervais Courtellemont

THE TOWN PALACE OF A LORD OF THE ATLAS

The French have permitted several powerful chieftains of mountain tribes to live in regal splendor in Fez and Marrakesh, while they retain control of their followers. The fountain shown here is similar to those found throughout Moslem Spain.

MUSICIANS AND DANCERS AT A BANQUET IN FEZ

Besides the oriental dances, given to the accompaniment of violin, lute, tambourine, flageolet, flute and drum, there are occasionally graceful sword dances by barefoot highland Berber girls. Note the superb mosaic tilework here and in the illustration to the left.

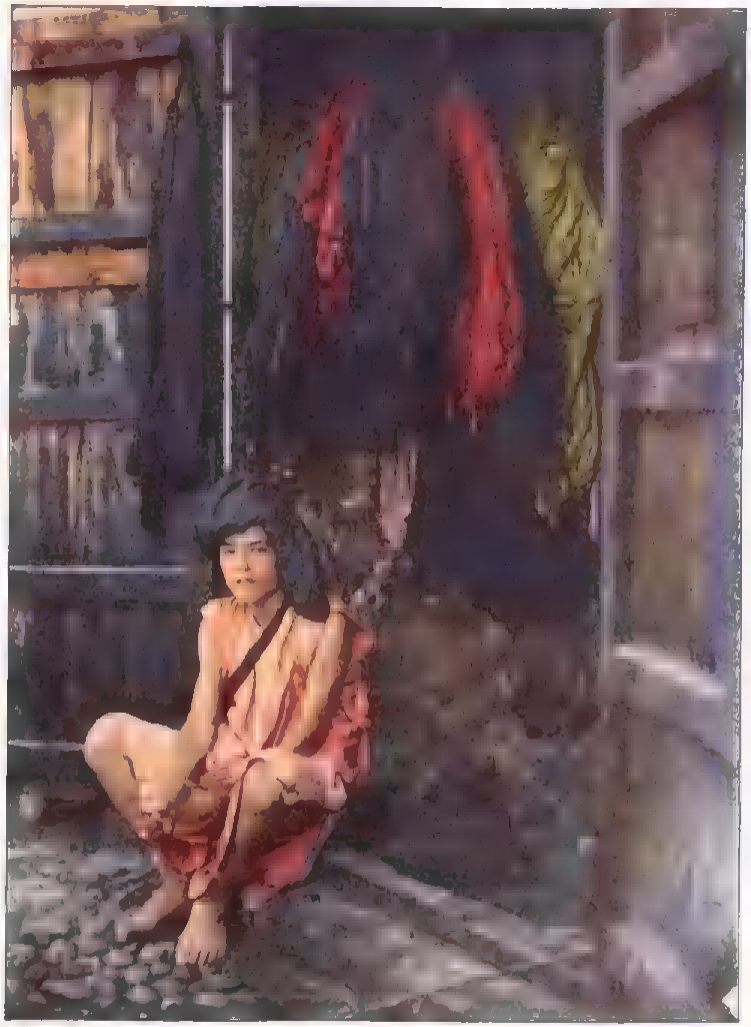


©

Autochromes Lumiere by Gervais Courtellemont

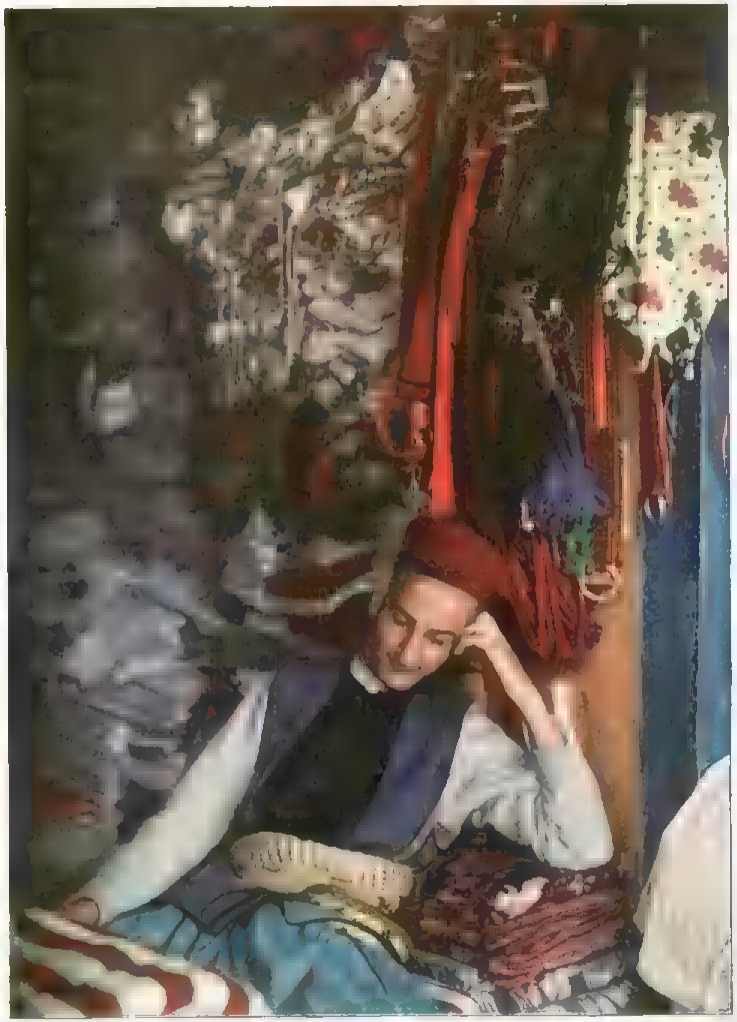
AN ARABIAN-NIGHTS TYPE IN MOROCCO

Like the snake charmer, the sweetmeat seller, and the musician, the story-teller is a part of Eastern life which has a strange fascination for the Westerner who lives in Arab lands.



A RABAT DYER OF RUG YARN

The colors of the famous Rabat rugs are burnt orange, mahogany brown, green, a little cream and dark coral. The floors of the mosques are carpeted throughout with many rugs.



©

Agence générale Lumière by Gervais Courtellemont

A LANGUID MERCHANT OF CASABLANCA

His shop is a mere cubby-hole in the wall, set waist-high above the street. He sits cross-legged by the hour among his wares—cinches for horses, saddle blankets, rainbow-hued silks and gay-colored cotton cloth.

A JEWISH CLOTH PEDDLER

Before the French came to Morocco, the Jews were compelled to show their subjection to the ruling race by their dress and were required to take off their shoes whenever they passed a saint's tomb.

and a scanty vegetation on which gaunt camels grazed.

These single-humped Arabian camels are not the "oldest residents" of Morocco. They followed the Arab invasion westward twelve centuries ago. Before their coming, the domesticated ass was the Berber's only beast of burden. Long years before the birth of the Great Camel Driver who gave to the Moslem world its faith, long years before the Three Wise Men journeyed to Bethlehem, Berber farmers here drove their asses to market and Berber shepherds here tended their flocks.

SHEPHERDS WEAR LOCK OF HAIR AS PASSPORT TO HEAVEN

At our first breakdown on the lonely road, out of sight of forts and soldiers, we were surrounded by these primitive plateau people. Not yet arrived at the opulent state of their countrymen on the back seat of the automobile, these poor shepherds wore brown homespun djellabas, ragged and soiled. Although nominally Moslems, wearing the usual prescribed head-covering, their women were unveiled.

The faces and ankles of these Berber women were tattooed. They were taller and leaner than their harem-bred sisters whom we later met in the cities where Moorish beauty runs to avoirdupois.

The heads of the young boys were uncovered, showing a long strand of hair on the otherwise shaven head. By means of this strand, the Jew from Oran informed us, the Faithful are jerked up to heaven.

We passed the homes of these shepherds—low black cloth tents of woven camels' hair surrounded by thorny brush walls. At night the sheep, goats, and donkeys are brought within the inclosure.

In Morocco there are more sheep than people. Barbary flocks are not driven, as in most parts of the world, but follow the shepherd, who calls to his sheep as he would call to little children. Perched on rocks, with their flocks about them, the half-clad Berber boys play the most mournful tunes imaginable on their ancient pipes.

At the village of Taurirt we had coffee at a café kept by a Frenchman. A starry-eyed, tame gazelle, called "Bizette," followed him about the room. The Atlas Mountains are still a haven for many wild creatures. Here roams the pale-brown aoudad, intermediate between sheep and goat, with big, wild eyes, large horns curving backward and downward, and long whitish hair drooping from throat, chest, and forelegs.

We crossed the broad Muluya River on the railroad bridge. Morocco is drained in three directions. Rivers, whose headwaters in the Atlas are within a limited circle, flow to the Atlantic, the Mediterranean, and the Sahara, the last-named streams being lost in the thirsty sand. The Muluya flows northeast from the Atlas to the Mediterranean, where it forms the boundary between French and Spanish territory.

Like the Sebu River, flowing from Fez to the Atlantic, it can be canalized, a French engineer told me, over much of its course. The French are negotiating with the Spanish in regard to the building of a port near the Muluya's mouth.

THE GIANT-FRAMED SENEGALESE ARE ENCOUNTERED

Near the village of Gersif (Guersif) we met the first of the Senegalese troopers. Of all the soldiers of France's mighty colonial army—Frenchmen, *Légionnaires*, Arabs, Berbers, and black men from many an equatorial clime—none are braver than these giant-framed ebony-skinned men of Senegal. Within the walled military inclosure at Gersif we saw the dwellings of these warriors—circular adobe huts with conical thatched roofs, not unlike the sort they have at home.

On the white wall of every fortified railroad station along this route two signs, in large, black letters, point the direction to the "Ville Indigène" and the "Ville Nouvelle." It is thus, from the first, made apparent to the traveler that the French have built their towns *outside* the native villages. They are not interfering with Moslem architecture, religion, or customs. They have built railroads and highways; have fortified those regions unsubdued even in pre-French days; have erected hospitals and schools; but Mussulmans and Jews are kept apart

Photograph by Frederick Moore

MAKING DAY HIDEOUS WITH HIS HOWLS: A SINGING MINSTREL OF MOROCCO

in the hospitals, the schools are on Moslem lines, and even the courts of justice are administered, under French supervision, by native pashas.

In Morocco a Pasha dispenses secular justice in a city, a Kaid governs a tribe, and a Kadi administers the Moslem law based on the Koran.

"The Moors are not an inferior, but a different, race from the French. We want them to become good Moors, not poor Frenchmen," Marshal Lyautey, Resident-General of Morocco, has said; and "Lyautey Africanus," as an American statesman once called him, is the very soul of this French Maroc.

From Gersif the road climbs to the terraced hill town of Taza, boldly commanding the Touahar Pass, the natural eastern boundary of Morocco, which looks a little like the Khyber Pass, between the Northwest Frontier Province of India and Afghanistan.

Like the Khyber, this pass has known hard fighting. Men of the Stone Age fought here, and men of the Bronze Age. Here marched the Roman legions. Here through the centuries flocked the Berber hordes, swaying east and west.

Twenty years ago Taza was the headquarters of Bu Hamara, a fierce bandit who held out against the Sultan. In Fez I saw the small cage in which he was exhibited on a camel's back, between his capture and his death, throughout the neighboring country.

At Taza, in the spring of 1914, the French forces from Fez met the French forces from Algeria and the tricolor waved across North Africa.

A SPLASH OF WHITE—THE HOLY CITY OF MOROCCO

The beautiful part of our day's journey was from Taza on. The blue Riffian hills to the north were without snow, but to the south the peaks of the Middle Atlas lifted their crystal-crowned heads to the cobalt sky. In the emerald bottom lands below the road sleek cattle grazed. Far ahead, on a distant hillside, we saw, through the twilight haze, a splash of white. It was our first glimpse of Fez.

I have seen strange and fascinating cities—kaleidoscopic La Paz, on the roof

Photograph by Harriet Chalmers Adams

UJDA TO FEZ BY AUTOMOBILE

In addition to the author and her sister, the car, which was driven by a French-Algerian chauffeur, had as passengers a modern Jew of Oran, another Jew of the Old Testament type, a woman traveler of French-Algerian, Turkish, and Berber blend, and three Berber men.

of the Western World; remote inland towns of Asia, Moscow in pre-war days, and many another ancient mart—but none is more alluring to Western eyes than this long-hidden Holy City of Morocco, seat of Moslem learning for more than 1,000 years. I am glad I saw it in springtime, when it lay like a pearl on the slopes of the velvet-green hills.

Fez is a compact, white-robed city of uneven flat roofs and unexpressive walls. From among these roofs rise the minarets of the mosques, which here are not slender, round towers, like those farther east, but square in shape, like the well-known Giralda of Seville. It is the great crenelated outer ramparts surrounding the city which give to it, and to every Moroccan town, that air of enchantment and mystery (see page 344).

Shading in color from terra cotta to ocher, nearly golden in some lights, interrupted by massive watchtowers and by an occasional gatetower with a horseshoe arch, these immutable walls of Old Fez fascinate the Westerner, lingering in the memory after other more animated scenes have faded.

Breaking the monotony of these walls within walls, built in days when Moroccan cities were perpetually menaced, are the smiling fields and gardens which encircle the town and the glimpses of secluded gardens within, where cypresses, pomegranates, apricots, and oleanders shade the jasmine and the rose.

DARK TALES ARE TOLD OF FEZ

I shall always connect this curious city with the sound of running water. Through it, and under many of its streets, rush mountain torrents. In the eyes of the Moor still water is unclean. The remarkable drainage system under the town is said to have been the work of a French renegade who lived here at the close of the eighteenth century. Dark tales of other days are whispered—a lid in the conduit lifted, a thrust—who knows!

Fez has four distinct divisions: the Medina, or native town; the Mellah, or Jewish quarter; the Sultan's palace and

Photograph by Captain Paul Martel

A VIEW OF OLD FEZ TAKEN FROM THE TOMBS OF THE ANCIENT MERINIDE SULTANS

To the north of the city are great sections of reddish ruined walls, ancient ramparts built in the twelfth century. To the right is the minaret and square-pointed roof of the mosque venerated throughout all Morocco, the Mulai Idris. To the left the minaret of the Mussulman University of El Kairouine, celebrated throughout North Africa.

grounds; and the new French city outside the walls.

The native city is divided, in turn, into Djedid, the upper town, and El Bali, the lower, older section. In Djedid are palaces and gardens, some abandoned. One of these palaces is now used as a French hotel.

El Bali is a labyrinth of dark lanes flanked by buildings windowless save for barred slits in the upper stories; and crowded alleys, roofed with reeds and palm branches (see page 345), where merchants sit, cross-legged, in cubby-hole bazaars waist-high above the street, smoking *kief* in long reed pipes.

Here are the mosques and the *medersas*, or preparatory schools with dormitories for students, built over small mosques, higher Mohammedan education being received in the large, main mosque.

While travelers in Morocco may not

enter the mosques now open to them in Algeria, they may see in the medersas the beautiful Moslem architecture at its best. In Fez there are four of these old buildings dating from the fourteenth century, and a fifth, of a later period, which is also a jewel.

For nearly 1,200 years Moslem art, over a vast territory stretching from the Far East to Morocco and Moorish Spain, has been essentially the same—simple of outline, with decorations in complicated geometrical design, since the Moslem faith is prejudiced against the representation of any form of life.

All Moroccan mosques, medersas, homes, shops, and cemeteries look more or less alike, forming an incomparable setting for a people whose dress, regardless of station, is alike in form and coloring. It is, I think, this whiteness and sameness which give to the cities of Morocco, no matter how thronged their streets, an air of quietude.

Photograph from Joseph Bouhsira

A SHOPPING STREET IN THE HEART OF OLD FEZ

The roof, designed to minimize the severity of the sun's rays, is a lattice of reeds. The booths of the merchants are cubby-hole bazaars on each side of the narrow thoroughfare. On some of the streets of Fez horses and mules are allowed, on others only pedestrians. This is one of the former, as shown by the well-to-do individual in the distance, who is mounted.

Only the motion picture can bring before one the never-ceasing human tide which flows by day through the narrow, crowded streets of Fez. The Moors, who number, in the French and Spanish zones, about 6,000,000, are a mixed race with a Berber base. This base we shall find, if we dig deep enough, to be white, allied to a prehistoric race of southwestern Europe. There are many admixtures—Arab, Jewish, Turkish, European. And there is also Negro slave blood from the far south.

Some of the aristocratic types are striking—men of white skin and noble mien, whose flowing robes lend a certain grace and dignity.

We pass a rich man astride a white mule. His high Moorish saddle looks uncomfortable, but the bright-red saddle-cloth and woven bridle are most pleasing to the eye.

Balek! Balek! ("Look out! Take care!") shouts the poor man on foot, as he beats his wretched little donkey into the thick of the crowd.

A MEDICAL MISSIONARY TALKING WITH A BOY OF FEZ

The European woman has conformed to the Moslem custom by wearing a white *djellaba*. The boy carries a bowl of couscous, a favorite food in Morocco (see also Color Plate I).

The upper-class women rarely venture out. Theirs is a walled life, illuminated by the joy of motherhood and the companionship of sisters in seclusion. The faces of the muffled women seen on the streets—servants, household slaves, wives of poor men—are veiled. Between bands of white, two dark eyes gleam out; or else the veil is so drawn that only one long-lashed eye remains uncovered. These women, barelegged like the men, shuffle along in heavy-soled, heelless slippers.

In marked contrast to the people seen in the Medina are those of the Mellah—sly, furtive old Jews in black gaberdines and skull caps, modern Jews in European clothes, fat old Jewesses wearing frayed Persian shawls, bright-faced, creamy-skinned young Jewesses with big, black eyes, their heads wrapped in gaudy silken scarfs. To these the coming of the French meant the end of long years of oppression.

To the Mellah the traveler goes for postcards and photographs, to have films developed, to look for the odds and ends needed in traveling. There are few curios to be found here save exquisite bits of filigree of ancient design in the dingy little shops of the goldsmiths.

THE HOME OF THE RED FELT FEZ

We must go back to the native town for the silk embroideries for which Fez is noted. Here, too, are manufactured saddlery and leather slippers, musical instruments, a crude painted pottery and glazed tiles like those the Moors gave to Spain. The French are reviving these native crafts, along with the matting of Salé, the rugs of Rabat and the Berber villages, and the brassware of Marrakesh (see Color Plates II, V, and VII).

Until recent times Fez had a monopoly on the red felt caps which bear the city's name. I was told that in the old days the carmine dye for these caps was obtained from the juice of a Moroccan berry. Nowadays fezzes are also manufactured in Turkey and in France.

To the royal palace the reigning sultan, Mulai Yusef, comes but seldom from his more modern abode, beside the home of

the French Resident-General in Rabat. Women of his harem live behind these moldering walls.

A NESTING LAND FOR STORKS

On all these massive Moroccan walls storks, in nesting time, hold sway. I saw their brushy nests, too, on the thatched peaked roofs of mud huts throughout the country, as many as fifty nests in a village of twenty huts. The natives love and cherish these big, friendly birds. The annual migration brings the storks north from South Africa to southern Europe in the early spring. Thousands fly no farther than Morocco. The young hatch earlier here than in Spain. In the meadows where cattle graze I saw many small white egrets, also migratory in North Africa. They follow the cattle, feeding upon insects disturbed by them, often perching on their backs.

Photograph by Captain Paul Martel

A MARRIED WOMAN OF THE ARISTOCRACY OF FEZ

She wears a gold diadem and headpiece, precious stones and pearls. On the sides of the face are nets of fine pearls; on the breast are collars of pearls, with large emeralds. Her gold collar has pendants of precious stones; her silk belt is embroidered in gold, with a snap buckle of gold and precious stones, and the dress material is of cherry-colored silk worked and embroidered in gold. Both jewels and dress are sometimes rented or loaned by parents or friends. Their weight is so great that the bride can stand only a few minutes at a time and she cannot walk. The value of the ornaments and dress shown in this picture has been estimated at two million francs.

In the French quarter of Fez one sees the attractive modern Franco-Moorish architecture which has reached its glory in Rabat, capital of the Protectorate, on the Atlantic coast. During the early years of French occupation structures in Casablanca, the first city built by the French, were on European lines, unsuited to the climate and a blot on the Moorish landscape. Since then a new architecture—beautiful, suitable, blending well with the pure Moslem—has been evolved.

The French in Morocco have had to build extensively—administrative buildings, post offices, barracks, railway stations, warehouses, hotels, shops, homes. A Fine Arts Commission supervises all buildings and grounds.

The buildings, always white, are usually of two stories, with walls of concrete or soft native limestone. There are broad windows instead of the blank Moslem walls. There are arcades, patios, col-

ELABORATE PLASTER ART WORK FOR THE SULTAN'S PALACE AT MARRAKESH

umns, and arches. Color is introduced in bands of glazed tiles, blue predominating. The effect is one of space, beauty, comfort.

Some day, when the newly planted semitropical gardens have growth and bloom, these artistic, yet substantial, buildings will form a pleasing background for a perfect riot of color.

To the student of Spain and Portugal and Latin America, Morocco is a golden link in history's chain. Constantly I was reminded of all that the Moors gave to the Iberian Peninsula in architecture, arts, language, customs, flora. I could not, on the other hand, trace much of Spanish or Portuguese influence back to Morocco, whence Moslems fled after each Christian victory. To Fez from Granada, after the final expulsion of the Moors, came Boabdil, last of the Moorish rulers of Spain, to live on for more than 30 years.

FINER RAILWAY COACHES THAN ANY SEEN IN EUROPE

From Fez the trail reaches Mekinez in two hours by perfect motor highway or by broad-gauge railway, with finer coaches than any I saw in Europe.

It is the situation of Mekinez that places it among the unique cities of the world. We arrived after nightfall and drove what seemed to be an interminable distance to the hotel, which was, the coach driver explained, on the edge of the French settlement overlooking the native city. At last he rang the bell at the hotel

Photograph by Captain Paul Martel

AFTERNOON TEA IN A MOSLEM CEMETERY OUTSIDE THE WALLS OF FEZ

Friday is the day given over to Moslem women in the cemeteries of Morocco, and no man is supposed to enter the inclosure until late in the afternoon, after the ladies have departed. The women bring flowers and food to place on the graves and they make a sort of picnic holiday of the occasion, which varies the monotony of their shut-in lives.

gate and two Moorish house-boys wearing baggy, white knee breeches, green silk sleeveless jackets over white shirts, white aprons, and the customary red fezzes, came down, with a pleasant French greeting, to receive us.

When we looked from the window next morning, all Mekinez lay below us across a deep canyon—an oblong white city within its surrounding walls. The sunlight sparkled on the bluish-green tiled domes of the mosques. I counted 15 minarets.

Beyond the white town we saw the Cyclopean red walls of an older city stretching for miles across the flower-spangled plain, the city built by the arrogant Sultan, Mulai Ismail, who died in the early years of the eighteenth century, after a reign of 55 years, father, we are told, of more than 800 children.

HORSES THAT CARRY THEIR MASTERS 100 MILES A DAY

Hearing of Versailles and the pomp of Louis XIV's court, Mulai Ismail tried to rival it. Thousands of Christian slaves toiled on walls and palaces. The royal stables are said to have held 12,000 horses.

The French are now using these long-abandoned inclosures for practical purposes. There is a museum in the Sultan's palace. The old gardens bloom again. At the stock farm we saw spirited cream-white Arab horses, associated in Western minds with the Moors, who gave this noble strain to Spain.

"Wonderful horses throughout the country," a French enthusiast told me. "From here the Romans recruited their famous cavalry. Across the Atlas there's a breed, known as 'wind drinkers,' that hunt the ostrich and carry their masters 100 miles in a day."

Within the inclosure of the French hotel grounds at Mekinez is a small white-domed building, the shrine of some dead saint. Here an old *Marabout* (holy man) lives. I saw an old woman climb up the steep path from the highway to sweep out his shrine, and an aged man bring him food. Such shrines and such

BRINGING A WESTERN SEWING MACHINE TO THE HAREM: CASABLANCA

Casablanca, having more European residents than any other city in Morocco and being the first to receive Western innovations, is the one where the sewing machine more easily finds a place in a Moslem home. The men are the tailors here rather than the women. The woman carrying the machine is a servant.

Photograph by Harriet Chalmers Adams

A SOFT-DRINKS AND LUNCH COUNTER AT A WAY STATION ON THE MEKINEZ-RABAT RAILWAY

There are first-, second-, and third-class accommodations on this line, and, as the natives love to ride, the third-class coaches are always crowded. This vender has discarded native dress for European clothes, except for the turban. He had been a soldier during the World War and asked the author about a number of French towns with which he was familiar.

holy men are to be seen throughout Morocco.

The Moors are very fond of using nicknames, not only among themselves, but especially when speaking of Europeans, whose names are unpronounceable and difficult to translate into Arabic characters. These nicknames are usually based upon some physical peculiarity; hence, "Lord Deaf Man" and "Lord Lame Man." A British resident in Morocco, whose wife addressed him in terms of endearment, was always called "Mr. Dearie" by the native cook.

I remember Mekinez at sunset—a narrow white town backed by those flamingo-fringed clouds which are the glory of this country; again, of almost supernatural beauty, under the glowing stars.

ROMAN RUINS BEING UNEARTHED

Not far away, among the silent Zerhoun hills, are the ruins of Roman Volubilis, where French archeologists are piecing together fragments of stories in stone. While not as imposing as the Roman ruins of eastern Algeria or Tunisia, Volubilis and other sites nearer the Atlantic speak of those days when Mauritania was more than a name on the map.

There is a forest of cedars and oaks east of Mekinez and a forest of cork oaks between that city and the coast. These and the argan forest back of Mogador are the only trees on the wide Moroccan plain tilting upward from the Atlantic to the Atlas Mountains. The people call this unforested section the Bled (see also text, page 287). In spring great stretches of purple iris and countless marsh-loving birds beautify it, but to the men who cross it with their swaying camels and pattering donkeys, under the burning African summer sun, it must seem a dreary waste.

The French are reforesting the hills, taming the rivers, and building irrigation ditches, as in Algeria. Pine logs cut in the Atlas are floated downstream to the sea.

The cork oaks of Morocco, ruthlessly destroyed in the past, are like those in the Iberian Peninsula. Last autumn the United States made its first direct purchase of Moroccan cork. The argan tree is in a class by itself—gnarled, twisted, limited in habitat, a survivor of an age before the desiccation of the Sahara. It looks a little like the acacia and produces a nut about the size of an olive, from which oil, used by the natives in cooking, is extracted.

From Mekinez and its neighboring villages we went on to Rabat. This was not my first visit to Moroccan coast towns, and I found many changes after an absence of 12 years. The twin cities of Rabat and Salé are separated by the wide Bu Regreg River, "Father of Glittering" (see also page 287 and illustration, page 300). The one, with its great citadel mounted proudly on the cliff where the river meets the sea, now merges into the progressive French capital. The other, quiet and white as a snowdrift, beside the restless gray ocean, is little changed since those adventurous days when it harbored the fierce Barbary pirates known to Britons as the "Sally Rovers," who plundered the coasts of southern Europe, sailing as far north as the British Isles.

Many an unfortunate Christian captive came in chains to Rabat and Salé over the foaming river bar.

This inhospitable West Coast is without natural harbors, and the French have spent a small fortune on the port of Casablanca, an hour's ride south from Rabat. This city, the second in size in the country and the home of most of the European residents, is the economic center, just as Rabat is the administrative base.

It was here, in 1907, under a dying dynasty, that the French occupation of Morocco really began. It was not until 1912, after native soldiers had massacred their French officers in Fez, that Marshal (then General) Lyautey was appointed Resident-General. Marching to Fez, which was besieged by 20,000 Berbers, he and General Gouraud drove away the rebels. That Morocco was held and pacified during and in spite of the World War is one of the greatest of military achievements.

FROM SOUTH OF CASABLANCA COME THE VAUDEVILLE ACROBATS

South of Casablanca, by sea boulevard, lie Mazagan and Safi, rich in Portuguese associations, with crumbling fortresses built 400 years ago, when Portugal was the greatest maritime nation in the world, with trading posts far down the West African coast.

Photograph from Willard Price

A WATER VENDER OF MEKINEZ

As he makes his way through the crowded streets ringing his bell, the merchants, who cannot leave their wares to go to the drinking fountain, buy his none-too-clean water from the goatskin bag on his back.

The ghosts of gallant *fidalgos* seem to haunt these noble old battlements.

Mogador, south of Safi, is the gate of Marrakesh, the largest city of Morocco, now reached by rail and highway—beautiful palm-fringed, red-walled old Marrakesh at the foot of the High Atlas, more African in character than any of the other cities I have named. To it come jaded camel caravans from the Sahara, and strange, untamed men from the Dráa, the Ziz, the Gir, and the Sus, those little-known fertile valleys on the other side of the mountains.

From the Sus come the acrobats famous on the international vaudeville stage. The French have built motor roads over the Atlas. Even Veiled Tarudant, in the valley of the Sus, will soon be accessible to the traveler.

Barley, wheat, beans, camels' hair, hides, skins, almonds, and beeswax are some of the products brought out by camel caravan and donkey train from inland Morocco. There are 100,000 camels in the country.

Cattle are shipped in great numbers to Portugal; sheep to Spanish Morocco, Spain, Algeria, and France. Both mutton and wool are becoming short in France.

Moroccan hens must be very industrious, for incredible numbers of eggs are annually exported. One of the chief imports is tea, the national Moroccan beverage, served very hot, very sweet, and flavored with mint.

"I want to cross them mountains," a queer American tourist coming out of Marrakesh said to me, "and see the tents of the *A*-rabs!" When he goes I hope he will not flounder as hopelessly in Saharan sands as he has in the Moroccan racial maze.

Profiting by their own mistakes in Algeria and Tunisia, the French in Morocco have made a steady advance in pacification, unification, and progress. Abreast with the troops, in greater part native, but officered by Frenchmen, have marched the roads, railroads, schools, hospitals, and agricultural bureaus.

Young Moorish aristocrats are being educated, on Mohammedan lines, to serve as future military officers and municipal executives. Young Moorish women of

IN THE POTTERY BAZAAR: TANGIER

There is a great square or market place in this city where the country people gather, arriving on foot or on donkeys. With their laden camels and donkeys, they bring all sorts of produce and wares, and each article has a special place or corner in the market.

Photographs by H. F. Wight

THE GRAPE MARKET OF TANGIER

This fruit comes from Cádiz Province, Spain. There is a daily round-trip service between Tangier and Algeciras, leaving Spain in the morning and returning at night.

Photograph by H. F. Wight

ENTERING ONE OF THE GATES IN THE OLD WALLS OF TANGIER

In Tangier one sees a far more cosmopolitan crowd on the streets than in any other Moroccan city, and many more tourists, as so many Mediterranean-cruise ships touch here, and it is only a few hours from Gibraltar by one line and from Algeciras, Spain, by another.

the leading families are being trained. There are schools for French and native children in all the towns, and the long-established Hebrew schools continue.

"It isn't in the fine, large hospitals, where there are separate wards for Christians, Moslems, and Jews, that the best work is being done," the wife of a French officer in Fez told me. "There is a hospital here just for poor Mussulmans, reached through a gate in the outer wall.

"The surgeon is the only 'infidel' in it. His helpers are natives. The most fanatical of the people, who will not let us enter their homes or help them in any way, carry their sick to this hospital. To them the doctor is almost divine."

In this grain-producing country, only 500,000 of the 5,500,000 inhabitants live in the cities. The Berbers are born farmers.

Sugar cane and rice will grow in this land of the olive and the vine, the orange and the fig, and cotton has already been planted along the shores of the Sebu River.

The French claim that certain sheltered valleys of southwestern Morocco are as well suited as the Canary Islands for the growing of bananas, and there are potential forest areas and minerals unexploited. Already a rich phosphate deposit back of Casablanca is being worked.

A MOTOR JOURNEY FROM CASABLANCA TO TANGIER

It is a long day's motor journey from Casablanca to Tangier. The Tangier-Fez Railway should be in operation before many years. A year ago the roadbed was graded nearly all the way from the Fez-Rabat line north to the Spanish border. The highway, which crosses first a low plain and then a hilly country before again skirting the sea, parallels this future railroad.

We passed through Kenitra, a new French town at the mouth of the Sebu River.

At Souk-el-Arba we saw a country market in progress. "Souk" is "Market" and "Arba" is "Wednesday." All country

Wide World Photograph

TYPES OF RIFFIAN WARRIORS WHO HAVE BEEN THORNS IN THE SIDE OF SPAIN-IN-MOROCCO FOR YEARS

These tribesmen, numbering about 30,000, led by the chieftain Abd-el-Krim, occupy the hill territory of the Spanish Zone, a region about 200 miles long and 60 miles deep, overlooking the Mediterranean Sea. They are of Berber stock, allied to other indigenous mountain tribes of North Africa.

markets in Morocco bear the name of the day on which they are held. The people come from long distances with their produce. There is, I believe, no Saturday market because the Jews, who are the chief traders, will not attend.

Arbawa (Arbaoua) was our last French village. Here customs officials examined our luggage. Again we were straying from the tourist circuit. Our companions were French Colonials and Tangier Moors, who could be questioned about the country we were crossing.

The officials at the Spanish frontier were trim and businesslike. We had been warned that we should run right into the Spanish-Moroccan war zone and be shot by the Riffians, but we saw only Spanish soldiers repairing roads and working on the walls of forts.

Many military convoys passed us bound from Larache to the outposts, nearer the Riff Range. We saw, in fact, the beginning of the work of pulling in jagged outer lines and the strengthening of forts on a new Spanish front.

Alcazar (El Ksar-el-Kébir) was our first Spanish-Moroccan town. It is a historic spot. From here expeditions set out for the conquest of Spain. Here, in 1578, Dom Sebastian and the flower of Portugal fell in a mighty battle with the Moslems, a black day for the gallant little land of Prince Henry the Navigator.

Now we headed for the sea, for Larache and Arzila, the two old Portuguese *presidios* on the Atlantic shore of the Spanish Zone. At Larache we crossed the wide Loukkos River on a pontoon bridge, and beyond Arzila came to a stretch of salt marsh where the highway serves as a bridge.

"There's Cape Spartel!" the man next to me cried.

We were rounding the northwest corner of Africa. We were in the International Zone. Ahead lay Tangier.

This city, so well known to travelers,

Wide World Photograph

SHARPSHOOTERS IN THE RIFFIAN HILLS

Recently the Spanish military directorate inaugurated a new policy of withdrawal of Spanish troops from the interior to a fortified coastal belt. The Riffian tribesmen are valiant fighters, but the smallness of their numbers and the fact that they are like an island in the ocean, now completely surrounded by a pacified zone, either French or Spanish, seem to point to their ultimate subjugation, the fate that has overtaken equally brave aboriginal tribes blocking Civilization's path throughout the world.

has great possibilities and may some day be made as attractive as Algiers. The long-discussed and much-needed port works will soon be under way. Tangier has motor-bus service with Arzila and Larache and with the inland town of Tetuán, the Spanish administrative base. A railway connects Tetuán with Ceuta, just across from Gibraltar (see page 298). Ceuta and Melilla are Spain's sister fortresses on the Mediterranean under the shadow of the Riffian hills.

In the United States there is much misinformation current regarding Spanish Morocco, the general impression being that every Moor is about to cut the throat of every Spaniard. The truth is that a fair percentage of the 500,000 native inhabitants speak Spanish and, through centuries of association, are on friendly terms with their conquerors. There are many Spaniards living among the Moors and loyal Moorish soldiers fighting with the Spaniards against the Riffians.

The Riffian clansmen, with whom Spain is having such great difficulty, are Berbers, allied in blood and independence of spirit with other hill tribes of North Africa. They occupy a semicircular mountainous district back from the coast, extending from southeast of Tetuán to east of Melilla. Some of the peaks of this region are nearly 6,000 feet in height.

In their mountain fastnesses, with their herds and flocks, upland forests and little vales between the hills, where grain can be grown, they are self-supporting.

The coastal fields of Spanish Morocco are peacefully cultivated. Seeds and agricultural implements are being distributed among native farmers, roads are being built, schools are being opened.

In safety and comparative comfort we journeyed across Old Morocco, seeing, as through the veil of centuries, country life as it was three thousand years ago, cities which are perfect settings for Arabian Nights' tales, oases where clustering date palms whisper the secrets of that vast Sahara which lies beyond.

THE SINGING TOWERS OF HOLLAND AND BELGIUM

By William Gorham Rice

THE story I shall tell here is one of exploration, not in distant lands, but in the near-by and well-known Low Countries. It is a tale, too, of discovery for most Americans, at least, of a new kind of music.

That this rather unusual subject may be the more readily understood, it is worth while at the beginning to give a few moments' thought to the lands where this unique music originated, and to consider why it is now attracting special interest.

Four hundred years ago Charles V, Roman Emperor and (as Charles I) King of Spain, inherited the territory now within the boundaries of Holland and Belgium.

To duchies, counties, bishoprics, and lordships existing there, he added French Flanders, and proclaimed a new political unit under the name of the Seventeen United Provinces. Appropriately, the seal of the new federation was a lion holding a sheaf of seventeen arrows.

But soon the sheaf fell apart and the arrows were turned against one another in long and devastating war.

Yet within this distracted territory, and in a time of sieges and of distress unparalleled, a civic music of rare beauty came into being—a music which, while continuing ever since and increasingly holding a place in the love of its people, has been until lately almost unknown outside the boundaries of its origin.

Gradually since the time when Charles V reigned, this music has been wonderfully developed. To-day it is widely commanding artistic consideration and, with its noble architectural setting, it is coming to be recognized as peculiarly fitted to adorn and stimulate civic and community life everywhere.

A LAND DOTTED WITH SPIRES

The region of which this article treats extends from the North Sea shores inward for 50 miles or more in plains which are largely just above high tide. Often, with protecting dikes, portions of fertile acreage there are found even below sea level. Throughout these tranquil reaches windmills and waterways abound, and sometimes ships seem to be sailing through the land.

On every side one sees scores of cities, towns, and villages. In the foreground these are clearly defined, but in the middle distance they become less distinct, and on the horizon in soft and misty outline they almost disappear.

In every such extended view, above town hall and city gate and ancient church, rises dominant here a rugged tower, there a tall belfry or a graceful, slender spire. And each of these skyward-soaring structures becomes for the traveler a Singing Tower if, on nearer approach, he finds it crowned with that majestic instrument of music called a carillon.

The word "carillon"—pronounced "car' i-lon," with the "o" as in "atom"—and the derivative, "carillonneur," are French in origin, but now generally accepted in English.

THE CARILLON EXPRESSES THE SPIRIT OF A COUNTRY

After crossing the Atlantic, we touched at Plymouth and at Boulogne, and then on a Friday night came in sight of the shores of the Netherlands. At the mouth of the River Maas (Meuse) we waited for the high tide at two in the morning, to make it possible for our great ship to steam slowly up to Rotterdam.

Here we found the tower of St. Lawrence's Church, whose old bells make not merely a great musical instrument, but by their melodies express the spirit of the country over which they sound.

De Amicis, the Italian traveler, after climbing the tower of St. Lawrence, said that the indefinable sentiments inspired by the Dutch landscape held him silent for a long time. Then he was startled by strange music coming from he knew not where—the silvery notes now falling slowly one by one, now coming in groups,

Photograph from William Gorham Rice

THE SINGING TOWER OF THE NEW CITY HALL AT ROTTERDAM

Its carillon of 47 bells, the largest and finest installed in the last 100 years, is the gift of Phs. van Ommeren, Jr., shipping merchant of Rotterdam and New York, and commemorates a family name long identified with Dutch commerce. Rotterdam boasts two other carillons—that of St. Lawrence's Church (see opposite page) and that in the tower rising above the Bourse.

in trills, in sonorous chords, a quaint dancing strain somewhat primitive, an echo of the ancient life of her people, making one smile and sigh at the same moment.

We mounted the circular stone stairway leading to the heights of tower after tower to see the bells of a carillon in all their beauty of decoration and arrangement.

We found ourselves among a great company of bells, fixed upon a heavy framework and extending in parallel rows, tier above tier, completely filling the great tower room.

The little bells hang in the highest tier; the big bells just clear the floor; the intermediate sizes hang in tiers between. The largest bell of all is taller than a tall man and it may weigh four, five, or even six or eight tons. The smallest bell has a height of 10 or 12 inches only and perhaps a weight of less than 20 pounds.

Photograph from William Gorham Rice

THE SINGING TOWER OF ST. LAWRENCE'S CHURCH, ROTTERDAM

In this tower is a carillon of 39 bells, most of which were made in 1660 by Frans Hemony.

Soon our search showed us that of greater consequence, however, than number, or size, or weight, is the pitch relationship of the bells; for the bells of a carillon always progress by regular semitone or chromatic intervals. The carillon of St. Lawrence's tower has these intervals complete through more than three octaves, except that the two lowest semitones are lacking.

CARILLONS ARE PLAYED BY TOWER CLOCKS AND BY HAND

The arrangement and character of the bells had first attracted our attention. Then we began to study how the music is produced. We soon discovered that a carillon is played in two ways:

First, automatically by a revolving barrel connected with a tower clock, which starts the music at the hour, the half hour, and at the quarters, and sometimes even at the eighths (see page 364).

Second, by a trained musician, a carillonneur, seated at a keyboard like that of an organ. Six and even more notes can be struck in chords on the carillon keyboard, and, so delicate are the adjustments, that sustaining tones on the lighter bells are easily accomplished by "tremolando" (see page 367).

© Donald McLeish

THE ONCE FLOURISHING PORT OF VEERE: THE NETHERLANDS

The town is full of architectural relics of its palmy days of the 16th century, when it was the chief continental trading port of the Scottish woolen factories. Its ancient houses and historic town hall, with its graceful singing tower, form a real picture. Its carillon has 34 bells, chiefly from the foundry of Pieter and Andreas van den Gheyn, of Amsterdam.

Automatic playing of simple folk songs, chiefly on the light bells, with now and then the addition of a deep bass tone, is what the traveler constantly hears as he wanders through old towns in Belgium and Holland. The keyboard-playing by a carillonneur is reserved for special occasions only. It takes place on the market day, and on Sunday, and in the greater cities on a fixed evening every week in summer, particularly in Belgium. Then for one hour an elaborate concert, often with a printed program, is given. Then, too, the best music of great composers, such as Beethoven and Schubert, is played, as well as beautifully arranged Flemish and French folk songs and national hymns.

Thousands gather for these concerts. Quiet, even in so large a city as Antwerp, is then maintained in the neighborhood of the tower, vehicle traffic being diverted

Photograph from William Gorham Rice

LEIDEN TOWN HALL, WITH THE CARILLON TOWER IN THE BACKGROUND

After mounting the fine perron leading to the main entrance and reaching the burgomaster's room, which is adorned with magnificent old tapestries, it is a short climb up an electrically lighted stairway to the carillonneur's room. The ceiling of his room has mortised beams radiating from the center and has white stars painted on a blue ground in the spaces between.

from the near-by streets by order of the burgomaster.

ROTTERDAM HAS VARIETY OF CARILLON STRUCTURES

The tower of St. Lawrence's Church was begun in 1449, and the city placed a carillon in it in 1660. In the tower of the Rotterdam Bourse we found a smaller carillon of 27 bells, also more than two and a half centuries old.

A third carillon in Rotterdam to which we listened is the one that has just been placed in the new City Hall. It is larger, both in weight and in number of bells, than any carillon made in the last 100 years (see illustration, page 358).

Rotterdam's three Singing Towers, rising one above the City Hall, one above the Bourse, and one above the Church of St. Lawrence, gave us a clue to the variety of structures which may possess

© Donald McLeish

A HESITATING PURCHASER: ARNEMUIDEN FISHWIVES IN THE MARKET OF MIDDELBURG

a carillon. Our journeys showed us that similar music had floated for more than two centuries over the city gate at Enkhuizen, the Royal Palace at Amsterdam, the Weigh House at Alkmaar, the Cloth Hall at Ypres (destroyed during the World War), the University Library at Ghent, the Wine House at Zutphen (burned in 1921), and the Abbey at Middelburg, and that the spires of not a few of the historic churches of the Low Countries are Singing Towers.

Finally, we discovered the important fact that wherever a carillon hangs, its bells are owned by the city, its carillonneur is an official chosen by city authority, and the tower itself is under city control.

What a ride of peaceful beauty it is from Rotterdam to The Hague! Windmills and waterways, long rows of slender trees, and black-and-white cattle contentedly grazing, are to be seen on every side. We went by automobile in order to enjoy with fresh appreciation our first 14 miles in Holland.

At Delft the carillon is in the spire of the New Church, called "new," though over 400 years old, because it was begun

© Donald McLeish

ZEELAND VILLAGERS AT A CHURCH SERVICE

The costume and headdress of the women of this district are among the most elaborate in Holland.

a century later than the Old Church, near by. Here, far above us, we could see nearly four octaves of bells, ranged in rows above and on both sides of the dial of the tower clock.

Within the New Church, not far from the tombs of William the Silent and of Grotius, we found the final resting place of Delft's most famous carillonneur. On it is this inscription:

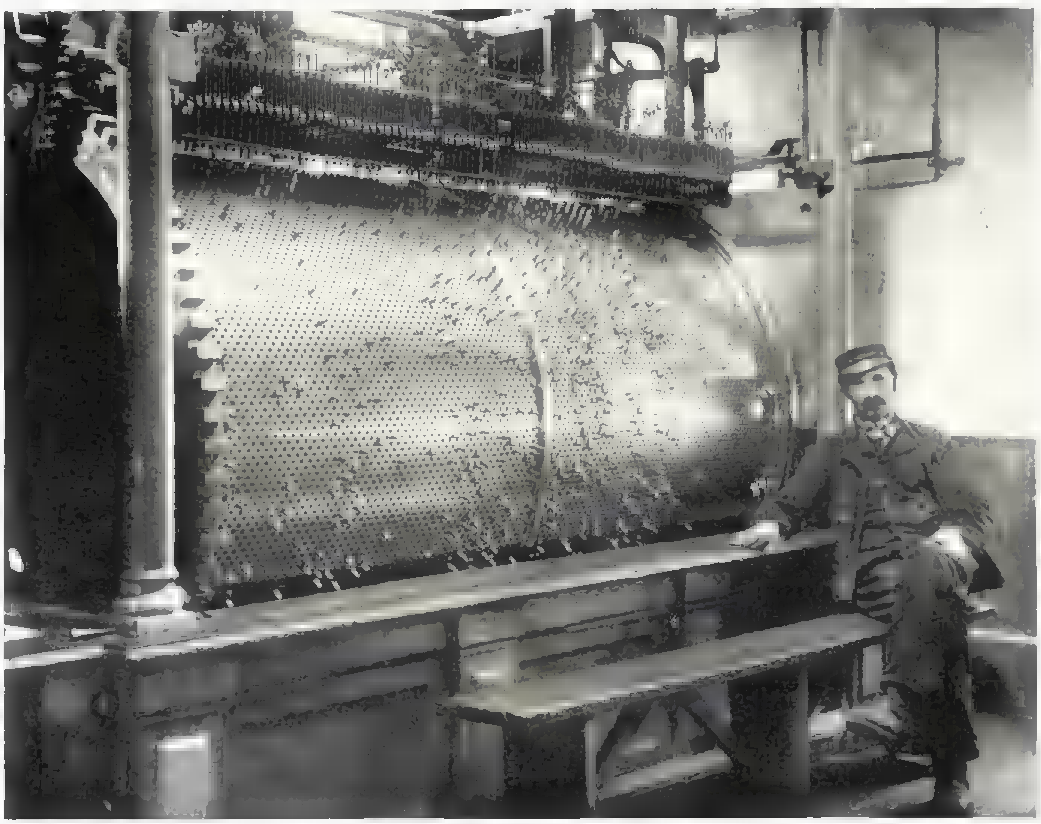
> Here lies Direk Scholl, who for more than sixty years made the carillon in the New Church to live.

Six miles beyond historic Delft lies The Hague—old, yet cosmopolitan, and ever delightful. We walked across the Square to the near-by Vyver, that small sheet of water in the center of the city, surrounded by shaded walks and the restful Parliament buildings.

As we sat under the trees looking down on the fascinating reflections, we heard coming faintly from the Singing Tower in the background an enchanting folk song. Then slowly a deep bass bell gave the afternoon hour.

HOW THE CARILLON ORIGINATED

In Holland and Belgium, about the middle of the 15th century, when timepieces were rare, and the people were much more dependent upon the town clock for knowledge of the time of day



© Donald McLeish

THE CHIME MECHANISM IN THE LOFTY TOWER OF "LONG JOHN" OF MIDDELBURG

The large metal drum rotates once every hour. The teeth on the drum, set at proper intervals and striking the keys, which are connected by wires with the 40 bells of the tower, play various popular airs. From time to time the pins are changed, as different tunes are desired. The mechanism bears the date 1715.

or night, it became the custom, as a premonitory signal, to precede the striking of the hour by a short automatic chiming on three or four small bells hung in the clock tower.

As this town and that sought to surpass its neighbors the bells were increased in number and the musical scale of tones and halftones thus became complete. Brief melodies began to be heard at the hour and the half hour, and with the addition of still more bells came, at these divisions, whole tunes played upon three or even four octaves of bells. All this playing was automatic.

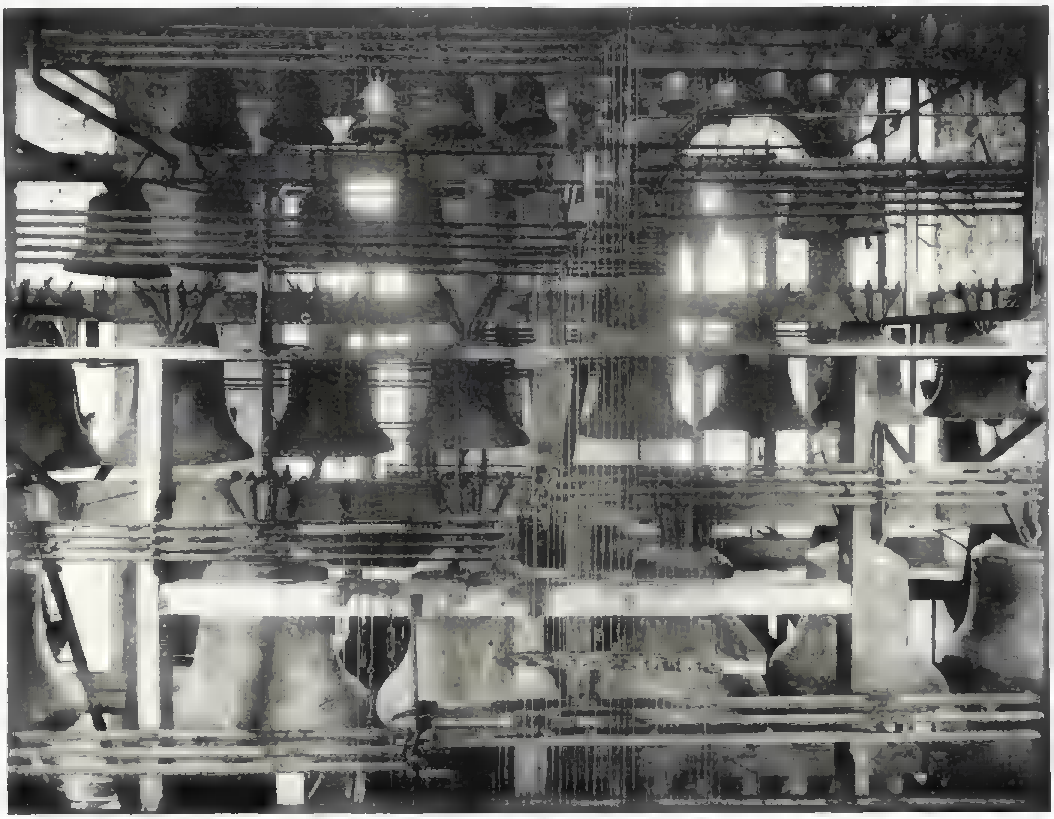
Then came the adoption of the keyboard, similar to that of the organ, with each key representing a bell note and readily responding to the art of the accomplished musician. Soon pedals were devised to play the heavier bells.

Thus, in the course of two or three centuries, was developed the carillon.

By making The Hague a center we found we could easily reach every part of Holland's carillon region in day journeys. Early one morning we went to Gouda. There, in the great church, we gazed upon the wonderful 16th century glass windows, the finest in Holland, abounding in glorious color, allegorical design, and historic interest, and listened as the carillon played far above us.

A CARILLONNEUR MUST BE FREE FROM GOUT

Ascending the steep winding staircase, we came finally to the carillonneur's cabin. There a charming scene met our eyes. Seated at the keyboard was the carillonneur, surrounded by an admiring group of seven boys and girls, who were thus



Photograph from William Gorham Rice

THE BELL CHAMBER AT GHENT, BELGIUM

The massive masonry and the tall windows of the Singing Tower are seen, and rising tier above tier are many of the bells of the carillon, the smallest at the top weighing only about 18 pounds. The wires and rods connecting both the keyboard and the barrel (see page 364) with the bells show clearly. Here one feels he stands in the center of the most gigantic of musical instruments. Of the 52 bells at Ghent, 33 of the medium-sized and smallest are visible in the picture. Fine craftsmanship is displayed in the ornamentation of these ancient bells, which, hidden as they are in the high recesses of this Singing Tower, few eyes ever have opportunity to look upon.

enjoying the morning of their Saturday holiday. One boy played now and then in duet with the carillonneur, and later, in our honor, they played together, "My Country, 'Tis of Thee."

Painted on two of the great posts of the frame that carries the bells, we read the names and date of service of all Gouda's carillonneurs, from 1669 onward, covering two and a half centuries. The longest recorded term was 63 years, the shortest 10, and in all only seven names appeared. The present incumbent has already 16 years to his credit. He is one of the best carillonneurs in Holland and is deeply devoted to every phase of his art. Carillon playing everywhere in the Low Countries is a question not so much of pay as of pride.

Fischer, author-carillonneur, who played in 1738 in Utrecht, declared that a carillonneur must have a good knowledge of music, good hands and good feet, and no gout!

THE PILGRIMS HEARD LEIDEN'S CARILLON

Only half an hour from The Hague is Leiden, where we found the Singing Tower crowning the low and very beautiful Town Hall. The Pilgrims, who, after leaving England, lived for a time at Leiden, undoubtedly heard this music, for the city has had a carillon since 1578.

Twenty-five miles beyond Leiden we came to Haarlem. There the carillon is in the tower of the old church, famous for its organ and models of historic ships suspended high in the groined arches of

Photograph from William Gorham Rice

BELLS AND TONGUES IN KEYBOARD RECITAL AND CONCERT PLAYING

Tier above tier of bells in rows is seen in the carillon chamber. The tongues of the bells as used in keyboard play clearly show here. These tongues are held near to, but not touching, the inner sound bow of the bells, and are made to strike by a carillonneur seated at a keyboard like that of an organ. This keyboard has all the notes, like the black and white of the organ keyboard, through several octaves. The carillonneur in playing uses both hands and feet. He obtains a sustained note by tremolando; for, as the tongue of the bell is kept by springs close to the sound bow, a quick touch upon the delicately adjusted key of the keyboard sounds the bell successively, as often as may be desired.

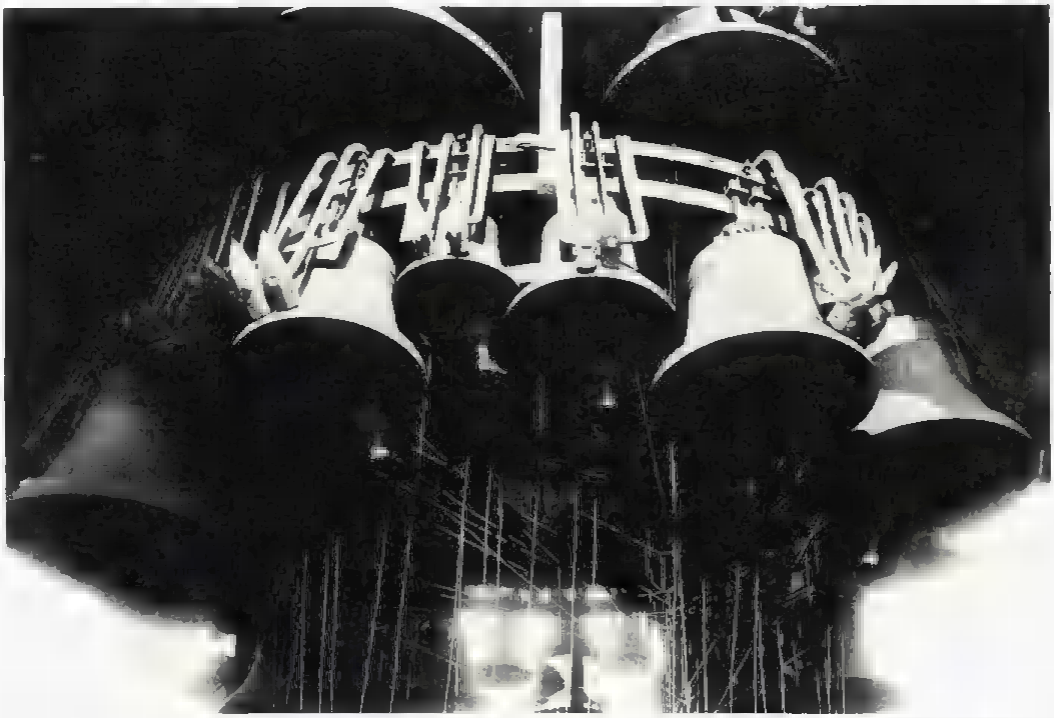
the ceiling. As we stood in a quiet street listening to the bells, a baker's boy passed us with a tray of cakes balanced on his head. He looked up affectionately at the tower, paused long enough to catch the air the carillonneur was playing, then joyously whistling it, he went the happier on his way.

AMSTERDAM HAS SIX SINGING TOWERS

Amsterdam, the commercial capital of Holland, lies 38 miles from The Hague. Whether the journey between these cities is made by railway, by canal, by automobile, by bicycle, or on foot, it is a succession of attractive scenes. To us it was a continuation of the beauty that we had already enjoyed between Rotterdam and The Hague, with the addition of tulip and hyacinth and gladiolus fields and in the distance, the dunes.

Amsterdam is first among present-day cities in the number of Singing Towers it possesses. The Royal Palace, the old Mint Tower, the Ryks Museum, and the Zuider, the West, and the Old Church spires all have carillons.

When we came to know that Amsterdam had six carillons we were not surprised that John V of Portugal, traveling in the Netherlands in 1730, was so impressed with this music that he determined to have a carillon for his sumptuous palace then being built. The price having been ascertained, it was guardedly suggested by his treasurer that the cost was rather great. This implied criticism so offended the self-esteem of the monarch that he replied, "I did not think it would be so cheap; I wish two." And these he got, for two magnificent carillons, played by keyboard and clockwork, exist to-day in the royal residence at Mafra, near Lisbon.



Photograph by D. J. Van der Veus

THE "GRAPE-CLUSTER" ARRANGEMENT OF HEMONY BELLS IN THE CUPOLA OF THE AMSTERDAM ROYAL PALACE

© Maison Ed. Nels

A CARILLON LESSON GIVEN BY JOSEF DENYN, GREATEST LIVING CARILLONNEUR

At the left (seated) is Nees, at the right Lefevre, two of his most promising pupils. The School of Carillon Instruction, free to the world, was inaugurated in August, 1922, at Malines (Mechlin), Belgium (see text page 376).

Photograph from William Gorham Rice

BELLS AND HAMMERS IN AUTOMATIC PLAY: ANTWERP

From two to five or six hammers are used on each bell for the automatic play. These hammers are connected with the great barrel, which is stopped and started by the clock mechanism (see page 364). More than one hammer is used, so that a quick repetition of a note may occur where needed in the melody. The hammers are connected by wires and rods with the levers, which are tripped by the arranged pins on the barrel. There are springs behind each hammer, which hold it when at rest a quarter to a half inch from the outside sound bow of the bell. This secures a clear staccato stroke each time the hammer falls. The tongues, which are used in keyboard play, also are seen about opposite the hammers (see also illustration, page 366).

Only copper and block tin, in the proportion of three parts of copper to one of tin, were used in making ancient bells, and the same practice prevails among the best bell founders to-day. From which it may well be concluded that the "golden molten" bells of Poe, the "heart-of-iron" bells of Longfellow, and the "silvery" bells of other writers are solely poetic license.

1,500 TUNING FORKS BRING BELLS INTO ACCURATE TUNE

In one foreign bell foundry the equipment consists in part of 1,500 tuning forks. There bells are brought into as accurate tune as is a piano. Properly made bells, once in tune, remain so always.

It is half a day's journey from The Hague to that part of the Singing Tower region far in the northeast of the Netherlands, where purple heather and hills abound.

Groningen, not far from the seacoast, in these higher lands, merits a visit. Here, high up in the tower of St. Martin's Church, we saw one of the finest of carillons.

When we were there a city watchman, as had been the custom for centuries past, spent the night in this tower. Immediately following the ripple of the bells every quarter of an hour, he appeared successively on each of the lofty miniature balconies that face each point of the compass. After all was serene in the sleeping town below, he sent out to north, south, east, and west a faint trumpet strain. And what more restful reminder that "All is well" can be conceived; or what more frugal scheme to let the tax-

Photograph by Emil P. Albrecht

NOTRE DAME CATHEDRAL, ANTWERP, FROM THE SOUTH PROMENADE, THE LARGEST AND MOST BEAUTIFUL GOTHIC CHURCH IN BELGIUM

The church was begun in the 14th century and finished in 1518. The spire is very elaborate. It contains a carillon of 47 bells.

paying burgher know that at least one employé is awake and on his job!

Alas! this ancient custom has now ceased, and the last survivor of the trumpeting tower watchmen, a company that even in recent years has given a medieval touch to many a city of the Low Countries, through the operation of municipal economy, has been retired.

Other explorations took us to Amersfoort, Arnhem, Utrecht, Middelburg, Flushing, Veere and Zierikzee, in each of which towns we found carillons which commanded our interest and invited our study.

And then our journey took us into Belgium.

ONE SCENE OF "LOHENGRIN" IS LAID ON ANTWERP'S RIVER BANKS

Looking out over the trees of the Place Verte, at Antwerp, from the open windows of our hotel we saw the Cathedral spire close enough to us to reveal the

© Donald McLeish

THE MINT TOWER OF AMSTERDAM

This is one of the six Singing Towers of Holland's commercial capital. Its small carillon plays automatically, giving popular airs every quarter hour. The bells are in the open arches above the clock. Amsterdam shows full justification for the name, "The Venice of the North."

delicate details of its beauty, and, above the confusion of the flower market and tramcars in the busy square below, we heard, before the great bell Karolus struck the hour, a lightly falling carillon melody.

Full of poetic associations are the nearby river banks, for it is "On the Scheldt, near Antwerp," that one scene of "Lohengrin" is laid. And majestic are the sweep of space and time and the silence of night, with this music dominating all, that Rosetti has conceived in his poem, "Antwerp and Bruges."

At Ghent, where the bells hang in a separate structure, the Belfry, an intelligent custodian took us up the tower in a modern electric lift. Nowhere else is a carillon tower so equipped, and to those who would gain the height and see for themselves, near at hand, the bells of a carillon of the first order, and its mechanism and the carillonneur's cabin, and yet would avoid an arduous climb, Ghent is commended (see page 373).

The carillon of Ghent rang out more than a century ago when, on December 24, 1814, the Treaty of Peace between Great Britain and the United States was concluded.

Photograph by William Gorham Rice, Jr.

ST. ROMBOLD'S SINGING TOWER, MALINES (MECHLIN), BELGIUM

This is the most important Singing Tower in carillon art (318 feet high) and many think it the most imposing in the world. On its 45 bells Josef Denyn gives his wonderful concerts Monday evenings in summer, when thousands come to listen. St. Rombold's is the Cathedral of Cardinal Mercier.

LONGFELLOW WAS INSPIRED BY BELGIUM'S SINGING TOWERS

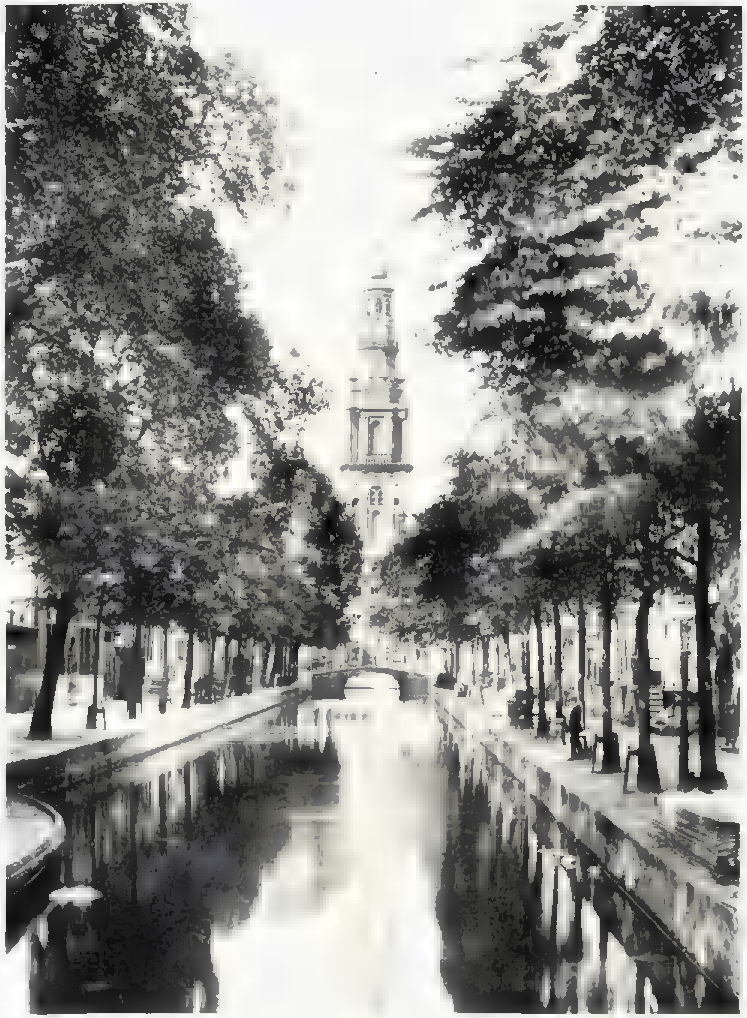
Eighty years before Bruges came into our field of exploration, Longfellow, dwelling in Belgium in his student days, had felt the appeal of the Singing Towers. The entries in his diary of 1842, and his poem "The Belfry of Bruges," of which one part is called "Carillon," show the impressions then made upon him.

In the World War the carillonneur of Bruges was of age to serve in the army and, his wife and child having been sent to England, he was compelled, so he told us, to leave the carillon to its fate. When the war was drawing to a close, he found himself near Bruges and asked permission to go and see how his home had

Photograph by Alexander Stewart

BRUGES, SEEN FROM ONE OF ITS MANY CANALS

The 13th century was the epoch of Bruges' greatest prosperity. It was the center of the trade of the Hanseatic League and the chief commercial city of Europe. Everywhere in Bruges the Singing Tower—the Belfry—dominates the scene. It was "in this quaint old Flemish city" that the poet Longfellow, traveling in 1842, came under the spell of its carillon, and as a result wrote the poem, "The Belfry of Bruges," of which one part is entitled "Carillon." In his diary of that May visit he speaks of his evening arrival in Bruges and his rising long before sunrise the next morning to climb the tower; and he describes the great carillon; the singing of the swallows with the bells; the view, as the darkness fled, and the landscape in the fresh morning air, with the canals linking the city to the sea.



Photograph by Edgar K. Frank

A CANAL IN AMSTERDAM, WITH ZUIDER KERK IN THE DISTANCE

This tower contains 35 bells, 32 of which were cast by the Hemonys in 1656. A chime may be described as a section of a few bells out of the central part of a carillon. Bells in a chime may be arranged to swing; bells in a carillon are hung "fixed." English change ringing uses a swinging chime, and every bell for such ringing has its own rope and ringer.

Photograph by Emil P. Albrecht

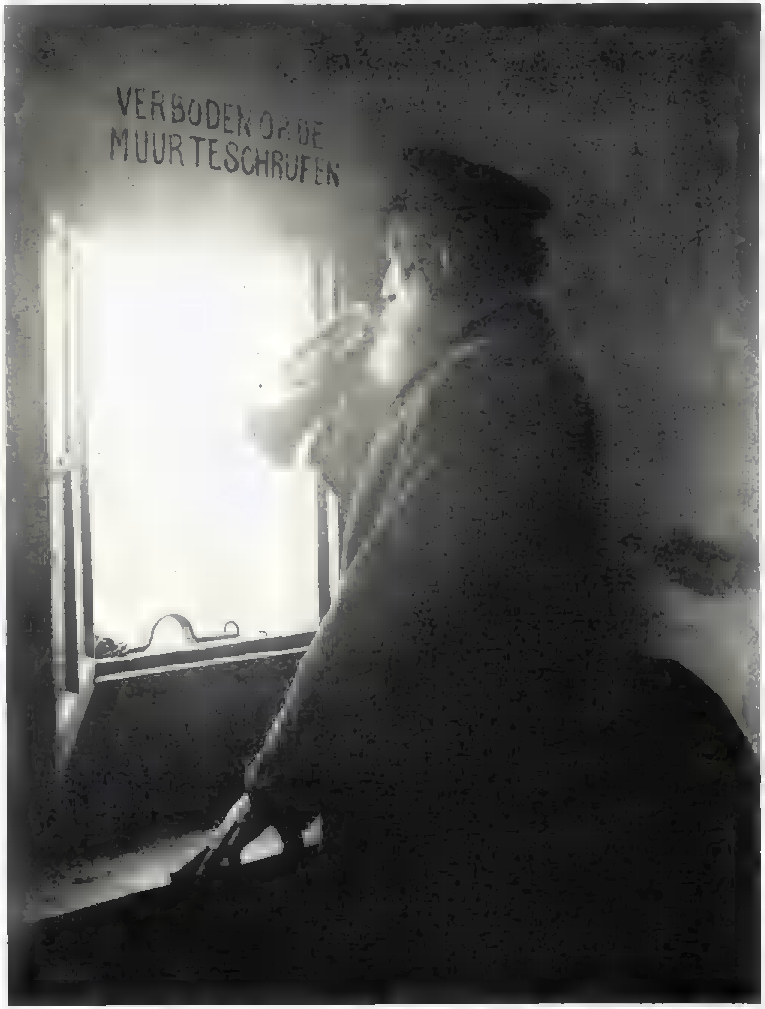
AT THE LEFT IS THE MASSIVE BASE OF THE BELFRY AT GHENT

Just beyond is the Cloth Hall, and in the middle distance is the Cathedral of St. Bavon. In this belfry is a carillon of 52 bells. Among them is the famous "Roland," cast in 1314, recast in 1659, and now again to be recast, as it cracked just before the World War began, in 1914. On it, in Flemish, is inscribed: 'My name is Roland. When I toll there is fire; when I peal there is victory in the land."

Photograph by D. J. Van der Vens

THE BELL MAKERS (AFTER AN OLD PRINT)

The two brothers, Pieter and Frans Hemony, the world-renowned 17th-century bell founders, are commonly accepted to have been the inventors of the modern carillon. It was in 1654 that Frans, a well-known carillon and cannon maker, came from quiet Zutphen to live at lively Amsterdam, where the city fathers gave him a foundry site. Other names famous in the history of bell making are Waghevens, van den Gheyn, and Dumery.



Photograph from William Gorham Rice

THE LAST SINGING TOWER TRUMPETER: GRONINGEN

Through centuries every quarter of each hour of the night, in tower after tower, in the Low Countries, a trumpeter watchman, if he saw all was well in the sleeping town below, followed with a faint strain of trumpet music the light automatic play of the carillon. At Groningen this custom continued even until the explorations here recounted by the author (see text, pages 368-369).

Photographs from William Gorham Rice

SINGING TOWER OF THE METROPOLITAN METHODIST CHURCH, TORONTO, CANADA

Toronto has the distinction of having installed the first bells entitled to be called a carillon in America. There the Metropolitan Methodist Church has 23 bells, mellow in tone and giving two chromatic octaves complete, except the two lowest half notes. The tenor, or largest bell, weighs four tons. The entire weight of the bells of this carillon is 17 tons. It was first played on April 2, 1922, the fiftieth anniversary of the church in which it hangs.

THE SINGING TOWER OF THE PORTUGUESE CHURCH AT GLOUCESTER, MASSACHUSETTS

Our Lady of Good Voyage is the poetic name of this church, in the southern tower of which hangs the first accurately tuned carillon in the United States. It has 33 chromatic bells and these give all the tones and half tones for nearly three octaves. The carillon was first rung in recital on July 23, 1922. The largest bell has a diameter of 3 feet 7 inches and weighs 1,900 pounds, while the smallest is 7 inches in diameter and weighs 19 pounds.

fared. Finding all was well there, he ascended the tower and sought out his beloved bells. There he discovered the wires had been cut, but quickly mending them, he was able, when the King and Queen rode into the city a few hours later, to inspire the crowds below with the strains of *La Brabançonne*.

A CONCERT BY THE PADEREWSKI OF THE CARILLON

Most glorious of all the Singing Towers is that which rises above St. Rombold's noble cathedral at Malines (Mechlin). Appropriately it, too, is the cathedral in which the great Cardinal Mercier officiates.

We arranged our journey so as to reach Malines for the anniversary of the 35 years of service of the distinguished carillonneur Josef Denyn. His skill is indeed marvelous. Well may he be called the Paderewski of the carillon.

Having arrived at Malines early on Saturday evening, we found ourselves in the current of a street pageant in Denyn's honor. Ancient guilds with superb banners and modern societies of every kind marched in the procession. Thousands of people filled the old streets. Houses and public buildings everywhere were gaily decorated.

This impressive pageant was but the beginning of events which filled four days, during which came the inauguration of the School of Carillon Instruction, free to all the world; the meeting of the first Carillon Congress ever assembled; the opening of the Exposition of Carillon Art, lasting through September, and the playing of visiting carillonneurs from France, Holland, and Belgium.

On Sunday noon, in the crowded Town Hall, the burgomaster presented to Denyn a gold medal from the city, and there the American Ambassador to Belgium spoke.

Carillon art attains its noblest expression in the evening concerts by Denyn at Malines. These take place year after year, on Monday evenings, in June, August, and September, from 9 to 10 o'clock.

Malines is midway between Antwerp and Brussels and distant only half an hour from each, so that multitudes from both these cities attend the concerts. Of late many have come also from much greater distances in Europe and from all parts of the world. A program of the music to be played at each concert is published months in advance. And while the great master plays all is quiet, even in the Grand' Place.

That Monday evening, after the hour bell of St. Rombold's Cathedral ceased striking and the vibration of its deep and solemn tone had died away, there was silence. So long a silence it seemed, so absolute, that we wondered if it was ever to be broken. Then pianissimo, from the highest, lightest bells, as if not to startle us, and from far, far above the tower—it seemed, indeed, as if very gently shaken from the sky itself—came trills and runs that were angelic. Rapidly they grew in volume and majesty, as they descended the scale, until the entire heavens seemed full of music.

Seated in the garden, we watched the little light in the tower, where we knew the unseen carillonneur sat at his keyboard and drew the music from his keys; and yet, as we watched and listened, we somehow felt that the music came from somewhere far beyond the tower, far higher than that dim light, and was produced by superhuman hands.

Sometimes the sounds were so low that we found ourselves bending forward to hear them. They seemed to come from an infinite distance, so faint and delicate were they. Then, at other times, great chords, in the volume of many organs, burst forth rapturously!

The concert ended at 10 o'clock with the national air of Belgium. Directly after this the great bell slowly struck the hour.

THE WORLD HAS 180 CARILLONS

In the world to-day are 180 carillons. Of these 134 are in Belgium and the Netherlands. The rest are scattered in other parts of Europe, the United States, and Canada.

Eleven carillons were destroyed in the World War, but already three of these have been replaced.

INDEX FOR JULY-DECEMBER, 1924, VOLUME READY

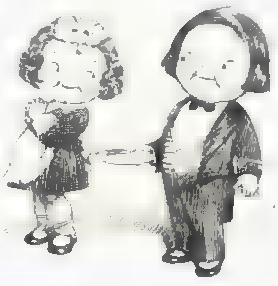
Index for Volume XLVI (July-December, 1924) of the National Geographic Magazine will be mailed to members upon request.

Consommé to grace the finest feast!

Consider the occasion when consomme is most appropriate—the formal dinner when many courses are served—and you will realize how much is expected of it.

Consomme must possess a delicate lightness, an exquisite bouquet, a rare perfection of flavor. Yet it must, at the same time, be deliciously stimulating, a challenge to the appetite, a tempting invitation to the rest of the feast.

More than equal to this exacting role, Campbell's Consomme proves it by the regularity with which it is selected for formal service at dinner or luncheon. Made from only selected beef. Clarified to a beautiful and sparkling amber. Delicately flavored with the essence of young carrots, celery, parsley and a touch of onion.



12 cents a can

Campbells' Soups

LOOK FOR THE RED-AND-WHITE LABEL

Give us Telephones!

Following the war, when business and social life surged again into normal channels, there came the cry from homes, hospitals, schools, mills, offices—"Give us telephones." No one in the telephone company will ever forget those days.

Doctors, nurses and those who were sick had to be given telephones first. New buildings, delayed by war emergency, had to be constructed, switchboards built and installed, cables made and laid, lines run and telephones attached.

The telephone shortage is never far away. If for a few years the telephone company was unable to build ahead, if it neglected to push into the markets for capital and materials for the future's need, there would be a recurrence of the dearth of telephones. No one could dread that so much as the 350,000 telephone workers.

Bell System engineers measure and forecast the growth of communities; cables, conduits, switchboards and buildings are planned and developed years ahead, that facilities may be provided in advance of telephone want. Population or business requirement added to a community must find the telephone ready, waiting.

AMERICAN TELEPHONE AND TELEGRAPH COMPANY
AND ASSOCIATED COMPANIES

BELL SYSTEM

One Policy, One System, Universal Service

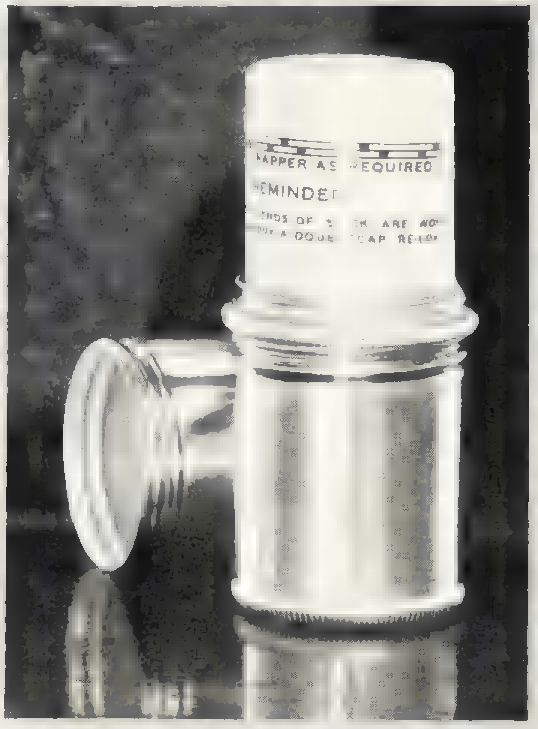
What you can see . . *through coupons*

Money carefully invested during income-earning years provides the means and the time to see the world during income-spending years. Let us help you to lay out a far-sighted investment program with the well-secured bonds we offer as the cornerstone. Offices in more than 50 leading cities stand ready to give you personal investment counsel.

THE NATIONAL CITY COMPANY

National City Bank Building, New York

BONDS SHORT TERM NOTES ACCEPTANCES



DOUBLECAP
Here's a shaving stick that gives you a firm full-hand hold even when the stick is worn down until it is merely a thin wafer.

HOLDER TOP
Like Doublecap the stick is held by a threaded metal ring — no chance of its working loose. There are Reloads for both Williams sticks.

Two holders but one lather—Williams!

A MAN who tells us he has used nothing but Williams Stick for 28 years says: "Why harp on holders? Don't you realize that every man who ever used a Williams stick once would insist on Williams even if your soap had no holder?"

The same famous Lather

All right then, take your choice—Doublecap or Holder Top. Both contain the same full length stick—both give the same famous Williams lather. Perfected by three generations of shaving soap specialists, there is nothing else like it. Quick, thick, lasting. It bulks. It holds moisture. It softens the beard—speedily, thoroughly. It makes the skin flexible. It leaves the face feeling like velvet.

All that can be offered in a shaving stick is offered in Williams—*comfort, speed, economy.* It is the longest lasting stick ever made.

We make Stick, Cream, Powder, Tablet; four forms—*One Lather!* Williams!

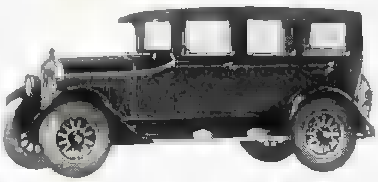
At once after you shave - pat on Aqua Velva, the new, scientific after-shaving preparation. A few drops keep the face like velvet all day long, even in cold weather. 150 drop test bottle FREE. Address Dept. 53.

THE J. B. WILLIAMS COMPANY, Glastonbury, Conn.

If you live in Canada address The J. B. Williams Co. Ltd., St. Patrick St., Montreal

3 Qualities No Other Four Possesses

25 Miles *to the* Gallon
58 Miles per Hour
5 *to* 25 Miles *in* 8 Seconds



The Standard Sedan
$1095
f.o.b. Detroit, Tax extra

Touring Car, $895; Club Coupe, $995; Club Sedan, $1045; Standard Sedan, $1095; Special Sedan, $1245. All prices f.o.b. Detroit, Tax extra.

Chrysler engineers have built into the new good Maxwell, performance so definitely superior that you must properly seek comparison in cars far above its price class.

The same engineering and manufacturing genius which in the Chrysler Six produced results heretofore unknown, has now in the good Maxwell scored its second great triumph.

Here, in the simple, economical four-cylinder principle, has been attained a degree of speed, power, flexibility and quick acceleration which literally amazes those used to paying a high premium for comparable performance.

Thus the great Maxwell organization and its wonderful plants have brought within the buying-ability of new thousands, unequaled pick-up and all the speed at which a man will care to drive—long life and a distinguished exterior which wins sincere admiration.

To produce such a car at the astonishingly low Maxwell prices is possible only with such complete and splendid manufacturing facilities as Maxwell's.

The New Good
MAXWELL

Balloon tires, natural wood wheels, stop-light, transmission lock, Duco finish *standard* on all Maxwell models. Shrouded visor integral with roof, heater, standard on all closed models.

There are Maxwell dealers everywhere. All are in position to extend the convenience of time-payments. Ask about Maxwell's attractive plan.

Those feet of yours

A flexible shoe for your flexible foot

Like the foot, the Cantilever Shoe is flexible from toe to heel.

Your foot can exercise and strengthen in the Cantilever, as Nature intends it should.

The arch of the shoe fits the undercurve of any foot snugly with all the nicety of a "custom fit" and gives restful support without restricting the foot muscles.

The natural lines, the snug heel, the gracefully rounded toe, and the ankle-hugging sides — other refinements that make the Cantilever fit so well.

Moderate height heels are scientifically placed to distribute the body weight evenly over the foot.

Feet that are free in flexible Cantilevers know REAL comfort.

Go to one of the stores below or write the manufacturers, Morse & Burt Co., 418 Willoughby Avenue, Brooklyn, N. Y., for the address of a — conveniently located Cantilever agency.

Have they still the spring of youth?

WATCH your step the next time you walk. Do your feet carry you along buoyantly, as they should? Or, do you tire easily?

If you find little real pleasure in walking, what Miss D. B. C., of Marquette, Michigan, has to say will interest you. She writes, "I have been wearing Cantilever Shoes for the past few weeks and have been 'walking on air' and gaining in speed! Cantilevers have strengthened my arch and I have not been since troubled with that painful cramping of the toes and foot."

Without good feet, you cannot keep health or youth. Wrinkles, crows' feet, a tired, unbecoming expression, are often due to shoe-bound feet. As your physician will tell you, your bodily health is affected if your feet are weak and cramped.

Give your feet comfort and freedom in flexible, naturally shaped shoes. You will then know better health and a keener pleasure for life—which is youth.

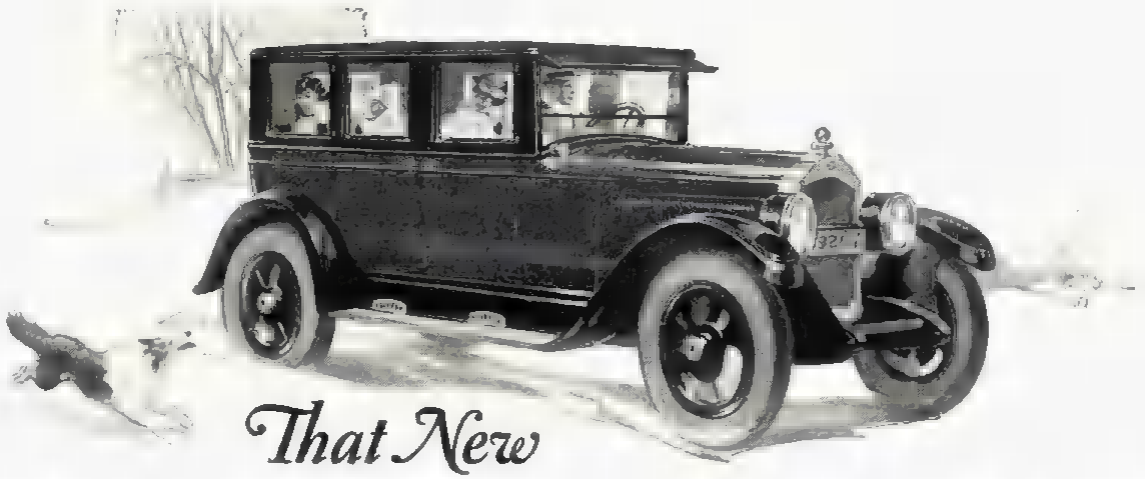
The Cantilever is a shoe of graceful lines and modish appearance. Stylishly rounded toes, pleasing patterns and a variety of styles give you other reasons beside foot health for wearing trim, comfortable Cantilevers. They fit splendidly. Quality is excellent. Priced reasonably.

Cantilever Shoe

Cantilever Stores—Cut this out for reference

Akron—11 Orpheum Arcade Main & Market
Albany—Hewett's Silk Shop, 19 N. Pearl St.
Allentown—907 Hamilton St.
Atlanta—136 Peachtree Arcade
Atlantic City—2019 Boardwalk (near Shelburne)
Baltimore—328 North Charles St. (2nd floor)
Bangor—John Conners Shoe Co.
Binghamton—Parlor City Shoe Co.
Birmingham—— North 20th St.
Boise—The Falk Mercantile Co.
Boston—109 Newbury St. cor. Clarendon St.
Bridgeport—1025 Main St. 3rd floor
Brooklyn—516 Fulton St. (Primrose Bldg.)
Buffalo—441 Main St. (above Chippewa St.)
Burlington, Vt.—Lewis & Blanchard Co.
Calgary—Hudson's Bay Co.
Charlotte—216 South Tryon St.
(164 N. State St., opp. Chicago Theatre)
Chicago—(1630 Leland, near Broadway
(5410 Cottage Grove Ave., Woodlawn)
Cincinnati—The McAlpin Co.
Cleveland—1705 Euclid Ave.
Columbus, O.—184 E. Broad St. (at 3rd)
Dallas—Medical Arts Bldg.
Dayton—The Rike-Kumler Co.
Denver—224 Exeter Bldg.
Des Moines—W. L. White Shoe Co.
Detroit—2038 Park Ave. (at Elizabeth St.)
Duluth—107 West First St. (near 1st Ave., W.)
Edmonton—Hudson's Bay Co.
Elizabeth—258 No. Broad St.
Evanston—North Shore Hosiery
Evansville—318 So. 3rd St., near Main
Fort Wayne—Mathias Appt's Sons
Fort Worth—Washer Bros.
Grand Rapids—Hespeler-Hermes Co.
Harrisburg—26 So. 3rd St., second floor
Hartford—Trumbull & Church Sts.
Houston—205 Foster-Bunk Commerce Bldg.
Huntington, W. Va.—McMahon-Diehl
Indianapolis—L. S. Ayres & Co.
Jacksonville, Fla.—Opposite Seminole Hotel
Jersey City—Bennett's, 411 Central Ave.
Kansas City, Mo.—360 Altman Bldg.
Knoxville—Spence Shoe Co.
Lincoln—Mayer Bros. Co.
Little Rock—417 Main St. (Pugh Bldg.)
Long Beach, Cal.—334 Pine Ave.
Los Angeles—503 New Pantages Bldg.
Louisville—Boston Shoe Co.
Lowell—The Bon Marche
Madison, Wis.—Family Shoe Store
Memphis—28 No. Second St.
Miami—Dickins Shoe Store
Milwaukee—Brouwer Shoe Co.
Minneapolis—25 Eighth St. South
Mobile—F. H. Britton
Montreal—Keefer Bldg., 55 Catherine, W.)
Mt. Vernon, N. Y.—S. J. Rice & Co.
Nashville—J. A. Meadors & Sons
Newark—897 Broad St., 2nd floor
New Bedford—Olympia Shoe Shop
New Brunswick—A. S. Harding & Sons
New Haven—153 Court St., 2nd floor
New Orleans—189 Baronne St., Room 200
(44 B. 49th St., opp. Public Library)
New York—2940 Third Ave., 152nd St.
(18 John St. (Bet. B'way and Nassau)
Norfolk—Ames & Brownley
Oakland—436-15th St., opp. City Hall
Oklahoma City—Feeley's Boot Shop
Omaha—1709 Howard St.
Pasadena—328 E. Colorado St.
Passaic—4 Lexington Ave. (at Erie Depot)
Paterson—19 Park Ave., at Erie Depot
Pawtucket—Evans & Young
Peoria—105 So. Jefferson St., Lehmann Bldg.)
Philadelphia—1542 Chestnut St.
Pittsburgh—The Rosenbaum Co.
Pittsfield—Wm. Fahey's, 254 North St.
Plainfield—M. 6—Van Arsdale
Portland, ——Palmer Shoe Co.
Portland, Ore.—353 Alder St.
Providence—The Boston Store
Reading—Sig. S. Schwerine
Richmond, Va.—Seymour Sayle
Roanoke—I. Bachrach Shoe Co.
Rochester, N. Y.—255 Main St., E. (3rd floor)
St. Joseph, Mo.—216 N. 7th Arcade Bldg.)
St. Louis—516 Arcade Bldg., opp. P. O.)
St. Paul—43 E. 5th St.—Frederic Hotel
St. Petersburg—W. L. Tillinghast
Sacramento—319 Ochsner Bldg., K near 7th
Saginaw—Goeschel-Kuiper Co.
Salt Lake City—Walker Bros. Co.
San Diego—The Marston Co.
San Francisco—127 Stockton St.
San Jose—Hoff & Kayser
Schenectady—445 State St.
——Lewis & Reilly
Seattle—Bister & Baxter
Sioux City—The Pelletier Co.
Spokane—The Crescent
Springfield, Mass.—Forbes & Wallace
Stamford—L. Speike & Son
Syracuse—121 West Jefferson St.
Tacoma—255 So. 11th St. (Fidelity Bldg.)
Toledo—La Salle & Koch Co.
Toronto—7 Queen St. East (at Yonge)
Trenton—31 M. Yanoshees & Bro.
Troy—35 Third St. (2nd floor)
Tulsa—Lyon's Shoe Store
Utica—20 & 30 Blandina St., cor. Union
Vancouver—Hudson's Bay Co.
Washington, D. C.—1419 F Street (2nd floor)
Waterbury—Howland-Hughes Co.
Wheeling—Geo. R. Taylor Co.
White Plains—Gedney Boot Shop
Wilmington, Del.—Kennard-Pyle
Winnipeg—Hudson's Bay Co.
Worcester—J. C. MacInnes Co.
Yonkers—22 Main St.
Youngstown—B. McManus Co.

Agencies in 446 other cities



That New

WILLYS-KNIGHT

Unequaled *performance* • unequaled *economy* • A new name for *smoothness* •• A new high mark for *efficiency* •• An engine you'll never wear out •••

Great engineers, great scientists, great inventors—prominent men in all walks of life, such as Franklin D. Roosevelt, former Assistant Secretary of the Navy; Dr. Lee de Forest, the "father" of radio; Glenn Curtiss, famous aeroplane inventor; Hiram P. Maxim, President of the Maxim Silencer Company; Bud Fisher, the noted cartoonist—are outspoken in their enthusiasm over the wonderful smoothness of the new Willys-Knight.

In addition to the vast fundamental advantages of the Willys-Knight sleeve-valve engine over poppet-valve engines—there is built into this marvelous engine a great English invention that *prevents* engine vibration at any speed—the celebrated Lanchester Balancer. Willys-Knight is the only car in the United States equipped with this great advance in engineering.

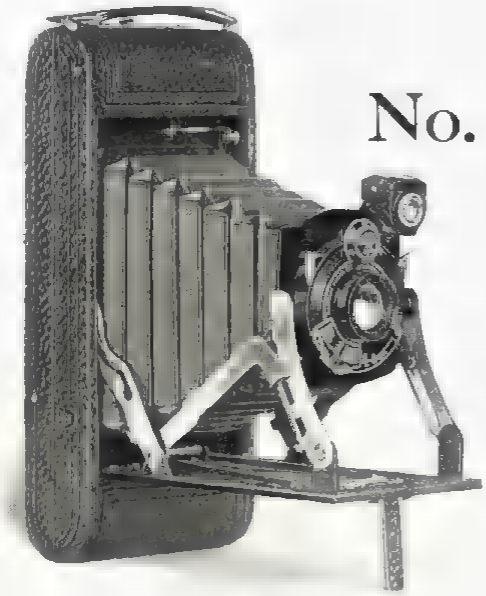
Automobile engineers have yet to invent and build another type of engine that possesses the long-wearing qualities of the Willys-Knight engine. Fifty thousand miles of uninterrupted service is commonplace, the usual thing, with this extraordinary engine. And even after five, six, seven years or more, when other engines have spent their life, the Willys-Knight engine is still young. Repair costs are next to nothing. For this engine has no clashing cams, no hammering push-rods, no pounding valves—no carbon troubles—no valve-grinding. It's an engine you'll *never wear out!*

Hand in hand with this progressive engineering is coupled a marked progress in coach-building. It is only natural that such a car should also excel in luxury. See it—drive it—and it's a hundred to one you will want it more than you have ever wanted a car before.

• • •

WILLYS-OVERLAND, Inc., Toledo, Ohio
Willys-Overland Sales Co. Limited, Toronto, Canada

WILLYS · OVERLAND · FINE · MOTOR · CARS



No. 1A Pocket Kodak
Series II

With four-speed Diomatic shutter and Kodak Anastigmat lens *f*.7.7

Pictures 2½x4¼ inches

$26

A new shutter on a popular camera

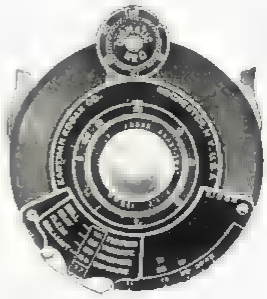
DIOMATIC SHUTTER is watch-like in design, watch-like in action. Seconds are split into tenths, twenty-fifths, fiftieths and hundredths with accuracy uncommon among cameras of moderate price. Coupled with this shutter is a sliding timing scale which selects the stop or speed that suits existing light.

KODAK ANASTIGMAT *f*.7.7—for sharpness, peer of any lens in the world—means keen, sparkling negatives. And a fingertip turn of the lens mounting sets the focus for any indicated distance, beginning at 6 feet.

Mechanically, this camera is unique. With one motion the bed drops down, the front pops out, ready for the sudden chance.

1A Pocket Kodak, Series II, is a convenient, capable camera, making pictures of a size and quality that you'll like.

All Kodaks are Autographic



The "stop" is set by so placing the scale that the kind of light (dull, gray, clear or brilliant) is opposite the required shutter speed. Or, do it the other way round.

You pick the right exposure easily; the Diomatic clicks it off precisely.

Eastman Kodak Company, Rochester, N. Y., *The Kodak City*

FREE to Mothers—10-Day Tube
Mail the Coupon

Look, mother, for film on your child's teeth

That's often a danger sign. If the dentifrice you now use doesn't combat it successfully, it's inadequate. How to combat it without harmful grit—*the new way in child's tooth care specialists recommend.*

FOREMOST dental authorities now advise a new way in caring for a child's teeth. A way different in formula, action and effect from any other method.

As a nation-wide hygienic movement, a 10-day test is offered mothers free. You are urged to make it. To see what modern science is doing for the better protection of children's teeth and health. Simply use the coupon.

What film indicates. Why it must be fought several times daily

Look at your child's teeth. If cloudy, dull, discolored, there's a film. And that film is often a danger sign. The child can feel it by running his tongue across his teeth.

Ordinary tooth pastes won't combat it successfully. Try the one you use now. See if the film does not still remain. To fight it constantly is essential to tooth health and general health. The teeth must be clean—any children's doctor, any dentist will tell you this.

* * * *

Film is a viscous coat that clings to teeth, gets into crevices and stays. It makes pearly teeth ugly, discolored—dingy. Many a naturally pretty child is handicapped in this way.

Film also holds food substance which ferments and forms acid. It holds the acid in contact with the teeth to cause decay. Germs by the millions breed in it. They, with tartar, are the chief cause of pyorrhea.

Now a new way

Now modern science has found a safe way to combat film. Super-gritty substances are judged dangerous to the teeth. Soap and chalk methods are inadequate.

This new method, embodied in the tooth paste called Pepsodent, provides the scientifically proved combatants that leading dentists throughout the civilized world now advise. Their action is to curdle the film, then harmlessly to remove it.

To millions this new way has proved the folly of dull and dingy teeth. The folly of inviting tooth troubles and all that may accompany them, when scientific prevention is so simple.

Don't you think it worth while, in justice to your children, and in fairness to yourself, to try it for ten days? The test will cost you nothing. What it will do for your children, it will do for you, for every member of your family.

Start today

Use the coupon for a free 10-day tube.

THAT fifty per cent—half the total—of our twenty-four million school children have tooth infections and decay which court the so-called communicable diseases and even mental deficiencies, is the amazing statement of world's hygienic authorities.

Where correct oral hygiene and dental care are practiced, children have shown amazing improvement in health, mental activity and immunity to disease.

This tells the most recent and widely accepted method of oral hygiene—the safe combating of the insidious, germ breeding film where most tooth troubles start.

As part of a nation-wide hygienic movement a 10-day test will be sent free to parents upon receipt of the coupon below.

FREE Mail Coupon for 10-Day Tube to

Pepsodent
PAT. OFF.
REG. U.S.

1695

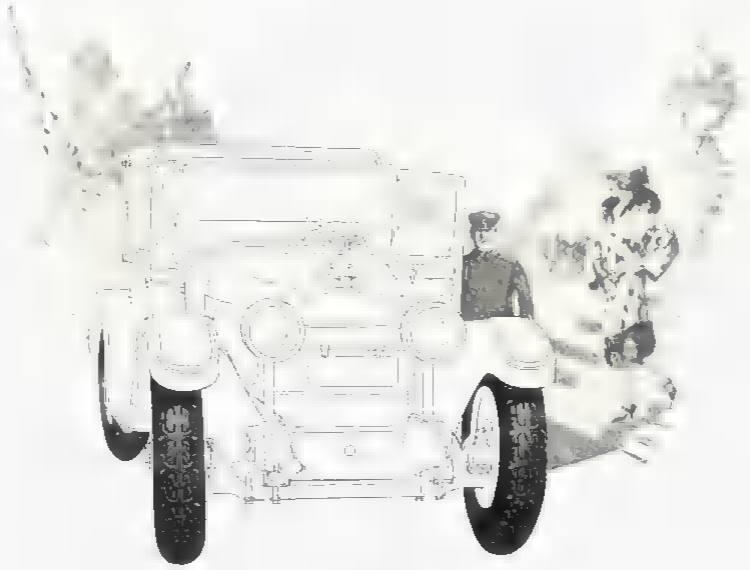
THE PEPSODENT COMPANY, Dept. 609, 1104 S. Wabash Ave., Chicago, Ill., U. S. A.

Send to:

Name .....

Address .....

Only one tube to a family.



Another Step Forward in Cord Tires

It was General's mastery of internal friction that enabled it to produce, five years ago, the first low-pressure tire ever placed on the market — the General Jumbo 30 x 3½ Cord with air pressure of 30 pounds. Just as today it has enabled General to produce the successful 6-ply Balloon Cord, to replace 4-ply Balloons on all except the smaller cars—combining all Balloon advantages with the right strength for the load, as well as reducing Balloon puncture risk 90%.

The Mark of Leading Tire Stores Everywhere

The

GENERAL

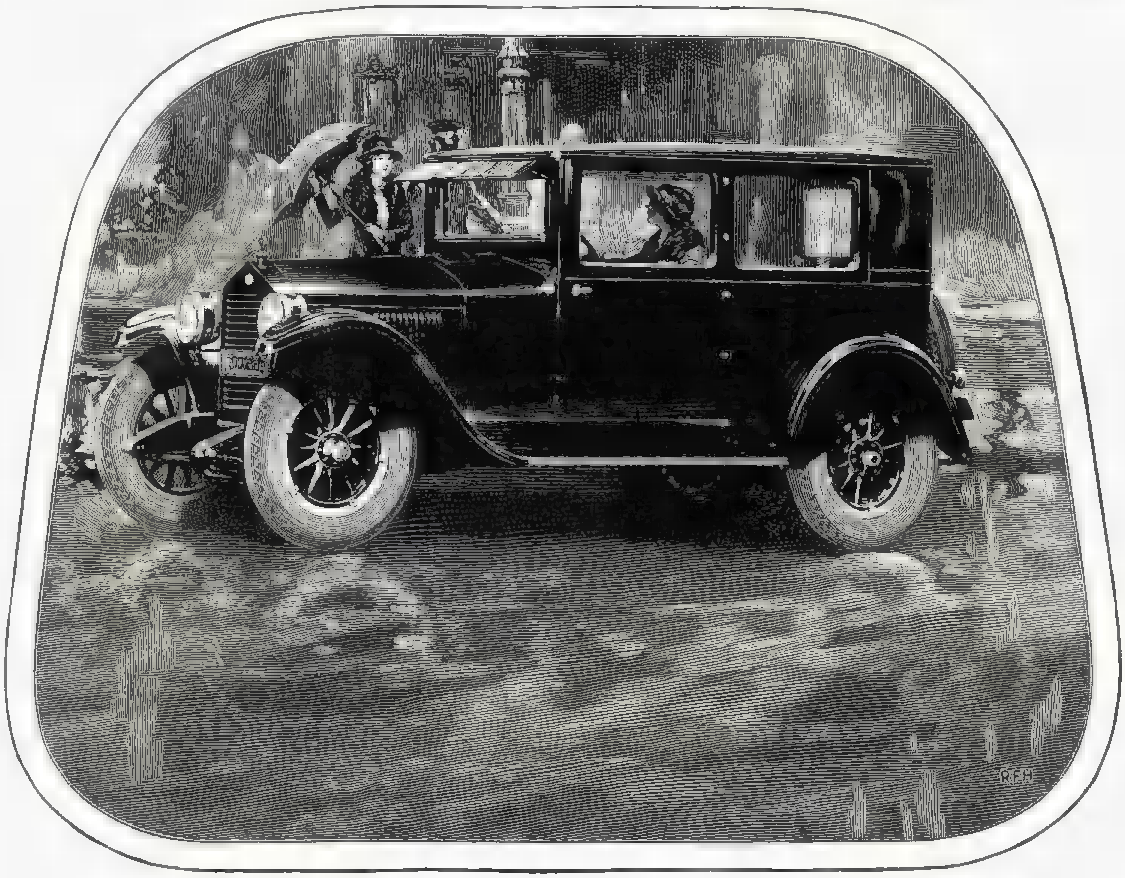
CORD

—goes a long way to make friends

BUILT IN AKRON, OHIO, BY THE GENERAL TIRE AND RUBBER COMPANY

The Best Essex Ever Built—$895

Freight and Tax Extra



Its Greatest Values Cannot Be Copied

The Chassis is Patented

Price considered, Essex gives the utmost in transportation value. By all means learn the facts. Ask Essex owners. Take a ride. Note this smooth performance, not surpassed by any car. How simply it handles. How luxurious its riding ease. Then think of its price.

Two of every three Essex buyers come to it from those who formerly owned cars bought chiefly for their low first cost.

Essex has all the advantages of the famous and exclusive Hudson patents. In quality Hudson and Essex are alike.

It is the finest Essex ever built. Its cost is but little more than cars of the lowest price.

Essex Holds Its Own In Any Company—In Any Service

The Service of Sheet Steel to the Public

WITHIN the last two decades the American people have begun to learn the advantages of sheet steel. In every branch of industry, in agriculture, in transportation, in the home, sheets have proved their superior service and economy for a vast number of important uses.

Rightly applied, there is no more economical and durable roofing material. The advantages of Sheet Steel for many varied industrial applications are known to every engineer. In the modern public building, hospital, hotel, office, restaurant and home, their fire resistive qualities, strength with light weight, economy of space, sanitary cleanliness and ease of application make them invaluable. The ease of forming sheets and the development of machinery for that purpose have enabled the manufacturers of a great range of products to increase the efficiency of their commodities or to cheapen costs, or both.

In 1905, American mills produced less than one million tons of sheets. By January, 1924, the annual productive capacity had increased to nearly five million tons. Yet this 500 per cent increase in the use of sheets, large though it is, represents only a small part of their potential usefulness.

There still remain wide fields in which there is as yet little realization of the better and more economical service which Sheet Steel can give.

But the public in general does not know that sheets are differently made for different uses and that all sheets are not alike. It does not know which gauges will give the best service for certain uses. And so consumers sometimes buy sheets which are not of the right quality or gauge for the purpose intended.

To inform the public regarding the superior service of Sheet Steel for many uses, the different kinds of sheets, and the right sheets to employ for specific purposes and how to be sure of getting them, the Sheet Steel Trade Extension Committee has undertaken a campaign of education in which this is the first announcement to the general public.

You will probably be interested in the booklet, "The Service of Sheet Steel to the Public." It will be sent free, postpaid, on request.

SHEET STEEL
TRADE EXTENSION COMMITTEE
715 OLIVER BUILDING
PITTSBURGH PENNSYLVANIA

God Bless Father—and Keep Him Safe

—is a prayer that goes up from a million small lips this night. Fathers do well who are worthy of its tribute.

It shows so clearly in the back of the small mind the realization that Father will feed us, clothe us, shelter us. It is putting into words the wife's smile for her husband when he comes home after the long day—the children's shout of joy as the familiar footstep sounds on the porch, and the key clicks in the lock.

All credit to the Fathers who deserve it. Many of them go even beyond providing against the dangers of today and tomorrow. Some of them even say "I will make sure that *every month* of their lives, they shall receive the means upon which they may live in comfort and safety."

What Are Prudential Monthly Income Policies?

WHILE you are young you can provide for your old age. While you live you can provide for those who depend upon you and who would suffer when you are no longer with them. The Prudential Monthly Income Policy pays a monthly income for any selected period of years or for a whole lifetime, as steady and sure as the Rock of Gibraltar. Ask any Prudential agent or write us.

The PRUDENTIAL

INSURANCE COMPANY OF AMERICA

Edward D. Duffield, President *Home Office, Newark, New Jersey*

Could she earn her own living?

SHE'S your daughter—and perhaps you hate to think of her having to work for a living.

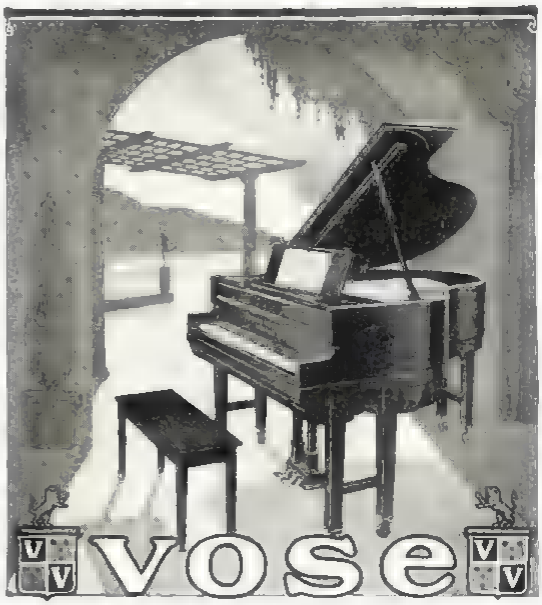
But this sort of thing does happen in very nice families—and too often the girl is utterly unprepared for any well-paid occupation. So she takes a poorly-paid job as sales girl, waitress or clerk.

* * * *

It's different when there is a Corona in the home. A child who has learned to use Corona Four, with its standard office keyboard, can operate any office machine—and you've provided her with the best kind of an insurance policy against the day when she may be forced to support herself.

A post card will bring you some interesting Corona literature. Mail it now. Corona Typewriter Co., Inc., 169 Main St., Groton, N. Y.

CORONA



THE VOSE REPRODUCING GRAND PIANO

brings into your home the art of the world's greatest pianists, with all their subtlety of touch and expression.

Although the exquisite tone of the Vose is world-famous, the Vose price is moderate.

Write for Floor Pattern and Easy Payment Terms.

Vose & Sons Piano Co., 146 Boylston St., Boston

EUROPE

Attractive Tours

$540 and up—36 Days and longer

Frequent Sailings, Most Complete Itineraries

Italy, Spain, Switzerland, France, Belgium, Germany, Holland, England, Mediterranean and Continental Countries

Official Agents All Steamship Lines

One of the oldest Travel Organizations, established 1875. Fifty years of satisfactory travel service and permanent offices in Europe assure our clients many advantages. Our Tours have no equal—the personal attention we give each Tour guarantees the best of service throughout. *Send for "Book K."*

Annual Mediterranean Cruise, January, 1926

FRANK TOURIST COMPANY

542 Fifth Avenue, New York

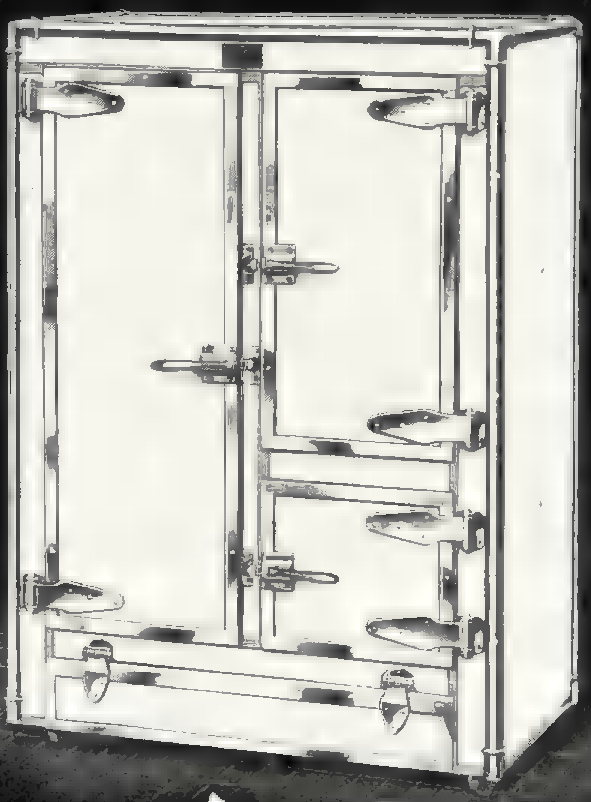
At Bank of America, Los Angeles, 582 Market St., San Francisco
219 S. 15th St., Philadelphia *Paris Cairo London*

DREER'S Garden Book

ANYONE who loves Flowers, or likes to raise his own Vegetables, can be just as successful as a professional gardener if he will follow the directions given in the invaluable cultural articles in Dreer's 1925 Garden Book. It offers the best Flower and Vegetable Seeds, Lawn Grass, Roses, Hardy Perennials, Dahlias, etc.

A copy mailed free if you mention this publication

HENRY A. DREER, 1306 Spring Garden St. Philadelphia, Pa.



Seeger

Original Siphon Refrigerators

are generally accepted as the

Standard of the American Home

As good a refrigerator as the Seeger is worthy of electrical refrigeration.

Equally efficient with ice.

Representative Dealers in all Cities

SEEGER REFRIGERATOR CO.

SAINT PAUL NEW YORK BOSTON
CHICAGO LOS ANGELES

SCIENTIFIC WREN HOUSE

It brings the wrens! 4-compartment house for succeeding broods. Beautiful to hang. Green. Oak with cypress shingles. 28" high, 18" dia.
$7.00

BIRD BATH

Birds need water – That's why they eat fruits. Here's a scientific stone bath with sloping sides complete with stand
$26.00

FORTY YEARS LOVING STUDY OF THE BIRDS

Dodson Bird Houses

ENJOY THEM, ON A SQUARE FOOT OR ON AN ACRE!

Folks get an idea the song birds must have a park or vast estate . . . Oh, no! There's a little pair of wrens, bluebirds, fly-catchers, just waiting for a home on the eaves of your house. Or on the tree just outside. And they'll WORK merrily all summer to rid you of mosquitoes, gnats, cut worms and insect pests! . . . These scientific houses pay in lastingness. They are the best a famous student of bird life can offer . . . Crated, ready to put up. Order by mail. Or write to Mr. Dodson

JOSEPH H. DODSON, INC.
702 Harrison Avenue Kankakee, Illinois

Mr. Dodson is President of the American Audubon Association and Devoted Friend of the Song Birds

QUEEN ANNE MARTIN HOUSE

48 rooms for the beautiful martins who colonize. Scientific porch. White, green trims. Of pine, copper roof. 22-foot pole. 36x26x37 inches.
$60.00

FREE

Send for Mr. Dodson's fascinating booklet: "Your Bird Friends and How to Win Them." Things you should know about the work of the song birds!

Look Inside the Piano for this TradeMark

WESSELL, NICKEL & GROSS NEW YORK TRADE MARK

The Sign of the World's Standard Piano Action

Getting the Most for Your Piano Dollars!

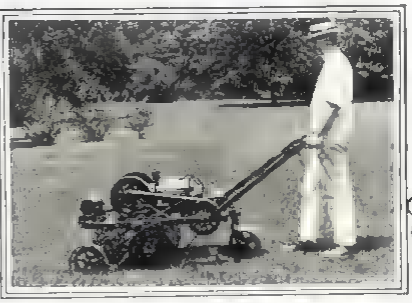
IN your piano purchase, make the piano action the *determining factor*—because it is the piano's most vital part—controlling tone and touch and, in a large measure, the durability of the instrument.

Insist upon the Wessell, Nickel & Gross action—because it is *the world's highest-priced piano action* and naturally found only in instruments of established worth—because since 1874 it has been recognized by the entire music industry as standard of the world because it is built by the *oldest, largest,* and *leading* makers of high-grade piano actions.

Your piano dealer is fully aware of the supremacy of this famous piano action. He will be glad to show you a Wessell, Nickel & Gross equipped piano, player or reproducing piano.

WESSELL, NICKEL & GROSS
Established 1874 New York City

When you Buy an Upright, Grand, Player or Reproducing Piano—Insist on the Wessell, Nickel & Gross Piano Action.



YOUR own caretaker, or even a laborer, can mow as much grass with an Ideal Power Lawn Mower as five men can with hand mowers. While he mows he will roll the sod to carpet-like smoothness, giving it a velvety appearance. You can save from two-thirds to four-fifths of the cost of lawn maintenance.

Ideal Power Lawn Mowers are mowing nearly fifteen thousand of America's finest lawns. They are simple, reliable and last for years. Write for literature.

Ideal Power Lawn Mower Co.
R. E. Olds, Chairman
422 Kalamazoo St., Lansing, Michigan
NEW YORK 13-19 Hudson St. CHICAGO 11 E. Harrison St.
Dealers in all Principal Cities (108)

IDEAL Power Lawn Mowers

Just a Little Home
—but build it well!

A little home is planned always with the hope of having the utmost comfort, convenience and coziness—three essentials in the modern small home.

Quite as essential, when a family's investment must be protected, is the *permanence* of these things in a home.

Today, as never before, home builders are asking more of their home investment than mere *first comfort*. They know a home can be so built that it will preserve through many years the comfort and coziness of the first year.

A home must be built well to withstand Time and preserve investment value. Good construction and good lumber do much to build permanence into the home.

From the felling of a tree to the finished product, Long-Bell manufacture is intent on the one aim of putting maximum building value into lumber. Every possible safeguard in production assures this value.

Lumber so carefully manufactured has the trade-mark "Long-Bell" on the end of the piece, not only as a means of identification, but as a signature of one of the world's largest lumber manufacturers on a product it has *made for the satisfaction of the user*.

Your lumber dealer knows the value of Long-Bell lumber products. Consult with him about your plans and have the benefit of his counsel in the important matter of selecting the quality of lumber that will build permanence into *your* new home.

THE LONG-BELL LUMBER COMPANY
R. A. LONG BUILDING [illegible] KANSAS CITY, MO.

LONG-BELL
Trade-Marked LUMBER

Douglas Fir Lumber and Timbers; Southern Pine Lumber and Timbers; Creosoted Lumber, Timbers, Posts, Poles, Ties, Guard-Rail Posts, Piling; Southern Hardwood Lumber and Timbers; Oak Flooring; California White Pine Lumber; Sash and Doors.

DOUGLAS FIR —with the Long-Bell Trade-Mark

Douglas Fir lumber and timbers are being produced in the Long-Bell manufacturing plants at Longview, Washington. The same high standards of production governing Long-Bell manufacture of Southern Pine, California White Pine, Southern Hardwoods, Oak Flooring and other Long-Bell trade-marked lumber products, are being carried out in the manufacture of Fir. Buyers of Fir lumber and timbers will find maximum value in material bearing the Long-Bell trade-mark on the end of the piece.

Beautiful Oak Floors

Floor value in the modern small home is important. Oak flooring is popular because of its beauty. *Carefully manufactured* oak flooring, however, must be used if the builder desires permanently satisfactory floors. Long-Bell trade-marked Oak Flooring is carefully manufactured. It is economical to lay and finish and gives beauty and durability to the home. A valuable booklet, "The Perfect Floor," will be mailed on request.

White Pine Doors

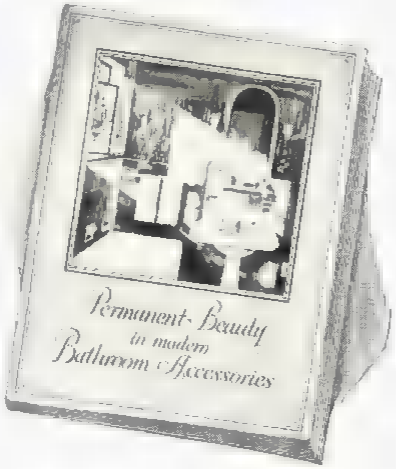
Long-Bell all-white-pine doors, made throughout of California White Pine, give universal satisfaction. They are beautiful in appearance—take any finish—do not check or split—and cost less to fit, mortise and hang. Ask your lumber dealer.

Timbers for Heavy Construction

All Long-Bell timbers are made on special order. From the selection of the tree to the finished product, every attention in manufacture is centered on the purpose for which the timber is to be used. For many years Long-Bell trade-marked timbers have been used in railroad and industrial construction. Long experience enables us to supply timbers of dependable quality, an important consideration for every buyer.

K N O W T H E L U M B E R Y O U B U Y

A bathroom of refinement reflects your good taste



This beautifully illustrated free book will help you to have a charming and modern bathroom.

YOUR architect will tell you that Fairfacts accessories are what you should have. They may be installed in walls of any kind—tile, cement, or plaster.

Fairfacts accessories are widely imitated, and many of these imitations are of extremely poor quality. Fairfacts accessories are made by a special process to withstand temperature changes.

Our Guarantee Certificate definitely guarantees that the Fairfacts accessory it accompanies will preserve its gorgeous snow-white lustre and remain free from cracks and stains as long as your house lasts.

THE FAIRFACTS COMPANY, Inc.
Manufacturers
Dept. P1, 234-236 West 14th Street,
New York City

Fairfacts

Permanently Beautiful — BATHROOM Fairfacts FIXTURES — *Bathroom Accessories*

THE FAIRFACTS COMPANY, INC.
Dept. P1, 234-236 West 14th St., New York City.
Please send me my Free Copy of "Permanent Beauty in Modern Bathroom Accessories" and special information about the Fairfacts Special Process which enables you to guarantee the lasting beauty of bathroom accessories as long as my house stands.

Name .....

Address .....

Save 25% on Your Building Costs This Spring

THE Bossert Ready-cut Method of building saves you hundreds of dollars on usual construction costs. It is the easiest, quickest and most economical way to build.

We Supply all necessary plans and specifications, lumber, millwork, plaster board, hardware, paint and varnish. The very home you have always wanted is yours at lowest cost.

Send Today for handsomely illustrated catalogue showing many beautiful Bossert-built homes. We have a copy for you.

LOUIS BOSSERT & SONS, Inc.
1313 Grand St. Brooklyn, N. Y.

WOVEN WOOD FENCING

Made in France of live chestnut saplings, woven together with wire, reinforced on back with horizontal wood strips in sections, ready to erect. Suitable for screening gardens, service yards, highways, or for eliminating objectionable views. Invaluable where privacy is desired. Furnished 6 ft. 6 in. and 4 ft. 11 in. high.

Robert C. Reeves Co.
187 Water Street
New York - - - - N. Y.

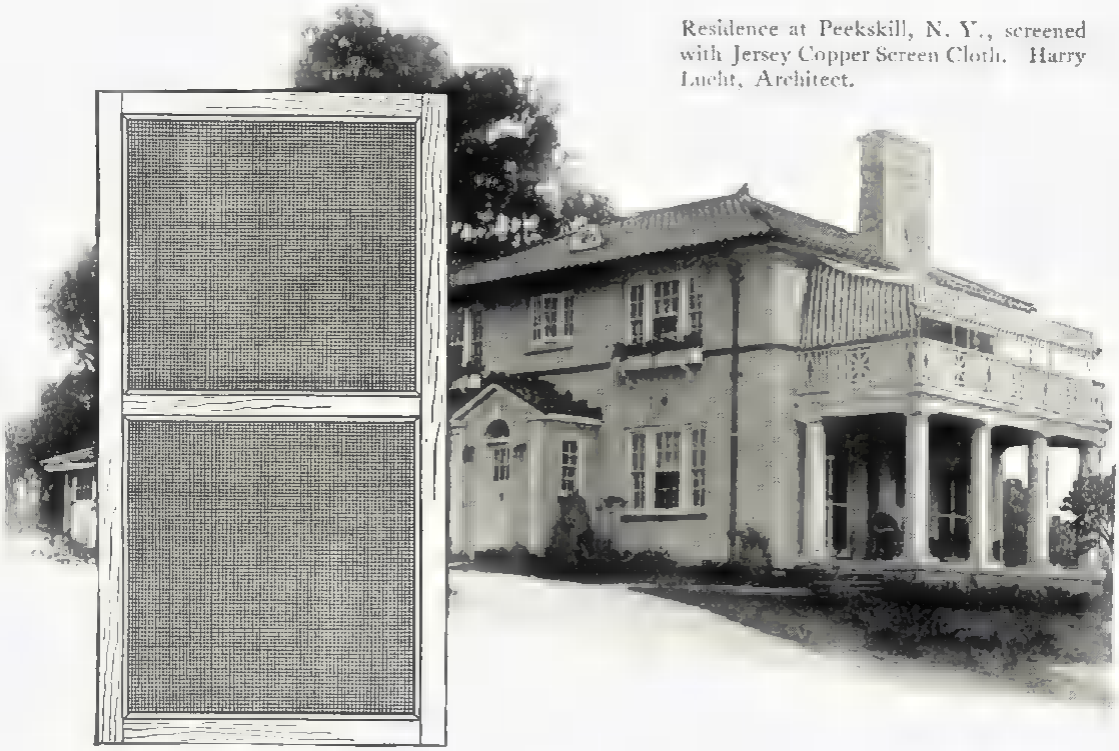
RAIN for the Asking

Send for this book — it's Free!

If you have ever wished for rain, then you will be interested in our new book, "Rain." It tells a lot of new facts about watering—how to get real results in your garden or lawn with less labor. Whether your place is small or large, the book contains many valuable suggestions.

When writing for your copy today, mention whether you are interested in lawn or garden watering.

The Skinner Irrigation Co.,
248 Water St. Troy, Ohio



Residence at Peekskill, N. Y., screened with Jersey Copper Screen Cloth. Harry Lucht, Architect.

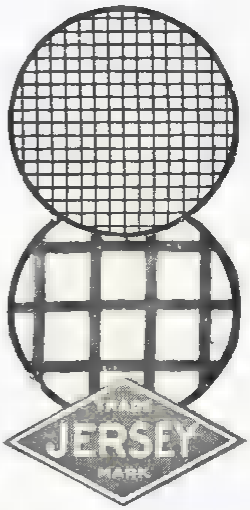
Five Reasons Why

The next time you buy insect screen cloth bear these facts in mind:

1. Jersey Copper Screen Cloth is 99.8% pure copper and cannot rust.
2. Due to a special Roebling process it has a tensile strength and stiffness comparable to that of steel.
3. Jersey Copper Screen Cloth, 16 mesh, is a true *insect* screen cloth. The wires are spaced with absolute uniformity and keep out not only flies but mosquitoes and other small insects.
4. It is made in a dark finish as well as the ordinary bright. The dark finish goes through no weathering process, is nearly invisible, and *stays* that way.
5. The worse the weather conditions, the more desirable that you use Jersey Copper Screen Cloth and end your screening troubles.

In our files is an infinite amount of proof, in the form of testimonials from satisfied users, as to the unusual durability of Jersey. Talk to your hardware merchant or custom-made screen manufacturer regarding Jersey Copper Screen Cloth. If he cannot supply you write us. We will supply the name of a distributor near you and send you samples and descriptive matter.

THE NEW JERSEY WIRE CLOTH COMPANY
All Grades of Wire Cloth Made of All Kinds of Wire
634 South Broad Street
Trenton New Jersey



In the upper circle is shown an unretouched photograph, actual size, of Copper Screen Cloth (heavy grade) made by The New Jersey Wire Cloth Company, which has been subjected to the action of salt air for more than twelve years.

In the circle below is the same Copper Screen Cloth enlarged 4 diameters.

JERSEY

Copper Screen Cloth

Made of Copper 99.8% Pure

For Every Member of the Family

the latest information on all the world—just the facts needed at any time on any subject within the realm of human knowledge, presented by a corps of brilliant scholars in America's greatest reference work

Now Brought Right Up-to-Date By the Addition of a

Two-Volume Supplement

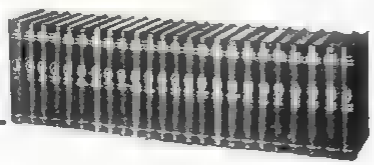
THE NEW INTERNATIONAL ENCYCLOPAEDIA

The completion of this splendid Supplement is an event of real importance, for it brings the scope of America's greatest reference work right down to the present. Many radical changes have affected human life and a wealth of new knowledge has been created through the significant events of recent years. The man or woman who wants to be well informed must have at hand a source of all this new knowledge. The Supplement just added to The New International Encyclopaedia puts this information at your service and makes this great work the latest and most complete reference work.

Write for Special Offer and Free Booklet

The publishers are presenting to new subscribers a remarkable special offer that affords an unusual opportunity to secure this indispensable work. Let them send you full details and also the FREE 80-PAGE BOOKLET with sample pages, colored maps, and illustrations. Just send the coupon—no obligation of expense.

DODD, MEAD & CO., INC.
NEW YORK



DODD, MEAD & CO., INC.
449 Fourth Avenue, New York

Send me, without cost or obligation, a copy of the Free 80-page booklet with specimen pages, maps, and illustrations, also full information about your *Special Supplement* offer on The New International Encyclopaedia.

Name _____
(Geographic 3-25)

Street Address _____

City and State _____

A Good Bookcase for the price of a good book!

$2.50 Per Section without Doors

With Disappearing Glass Doors $3.25 Per Section

On Approval—Direct to User

Lundstrom

IT GROWS WITH YOUR LIBRARY

SECTIONAL BOOKCASE

Endorsed by Over 100,000 Users

Made for and universally used in the finest homes and offices throughout the country. Made in sections of different sizes combining utility, economy and attractive appearance. Style shown above is beautifully finished in SOLID OAK. Price complete as shown with top, base and three book sections with **non-binding, disappearing, felt-cushioned** glass doors, $13.75; without doors, $11.50. In willow, either mahogany or walnut finish, with doors, $16.25; without doors, $13.25. Other styles in different grades and finishes at correspondingly low prices. **Shipped direct from factory** ON APPROVAL at a considerable saving TO YOU. Write for new catalog No. 80.

The C. J. LUNDSTROM MFG. CO., Little Falls, N. Y.
Manufacturers of Sectional Bookcases since 1890

Two Summer Vacation Tours Extraordinary

THROUGH ALASKA'S SCENIC BEAUTY

to the most spectacular of the Earth's marvels, the

VALLEY OF 10000 SMOKES

Leaving Seattle June 6 and July 4. Personally conducted. All expenses included. Rate $765.00. Parties limited to twenty members. **Early reservations necessary.**

Other All Expense Tours: Midnight Sun, June 11. Rate $570.00. Fairbanks via Golden Belt, July 4. Rate $525.00. Fairbanks and Mt. McKinley, July 11. Rate $685.00. Inside Passage, July 28. Rate $195.00. Big Game Hunting Trip, August 20. Rate $985.00.

Write for descriptive folder

CRISWELL TRAVEL SERVICE
507 South Spring Street Los Angeles, Calif.

"Who's the driver of this car?"

Crowded traffic. . . Treacherous going. . . A boy on a bicycle! . . Useless brakes. . . A dizzy swerve. . . Then —the crash! . . Cries. . . A growing crowd. . . The policeman demanding to know: "Who's the driver of this car?" . . Serious trouble. . . Possibly a suit for staggering damages!

WHO will pay when *your* accident comes? Though you have driven without mishap for years, the very next mile may find you involved in an accident that will sweep away your savings or your home!

Under an Ætna Combination Automobile Policy, you can be protected fully. If your car injures someone—if it is stolen—if it burns—if it is damaged by collision or wrecks other property—you can be secured against *all* loss. See the Ætna-izer today!

ÆTNA-IZE

The Ætna Life Insurance Company and affiliated companies issue virtually every known form of policy—Life Insurance in all its branches; Group Life; Group Disability; Accident and Health; Automobile; Compensation; Liability; Burglary; Plate Glass; Water Damage; Fire; Marine; Transportation; Fidelity Bonds; Surety Bonds, etc.

Ætna-ize according to your needs—as you prosper and as your obligations increase.

THE Ætna-izer is a man worth knowing. He represents the Ætna Life Insurance Company and affiliated companies — the strongest multiple-line insurance organization in the world.

For seventy-five years the word "Ætna" has been a guarantee of worthy insurance honestly sold. Today the Ætna-izer can provide you with absolute immunity from crippling financial loss in *any* form—protect both you and your loved ones against the whims of Fate.

ÆTNA LIFE INSURANCE COMPANY AND AFFILIATED COMPANIES

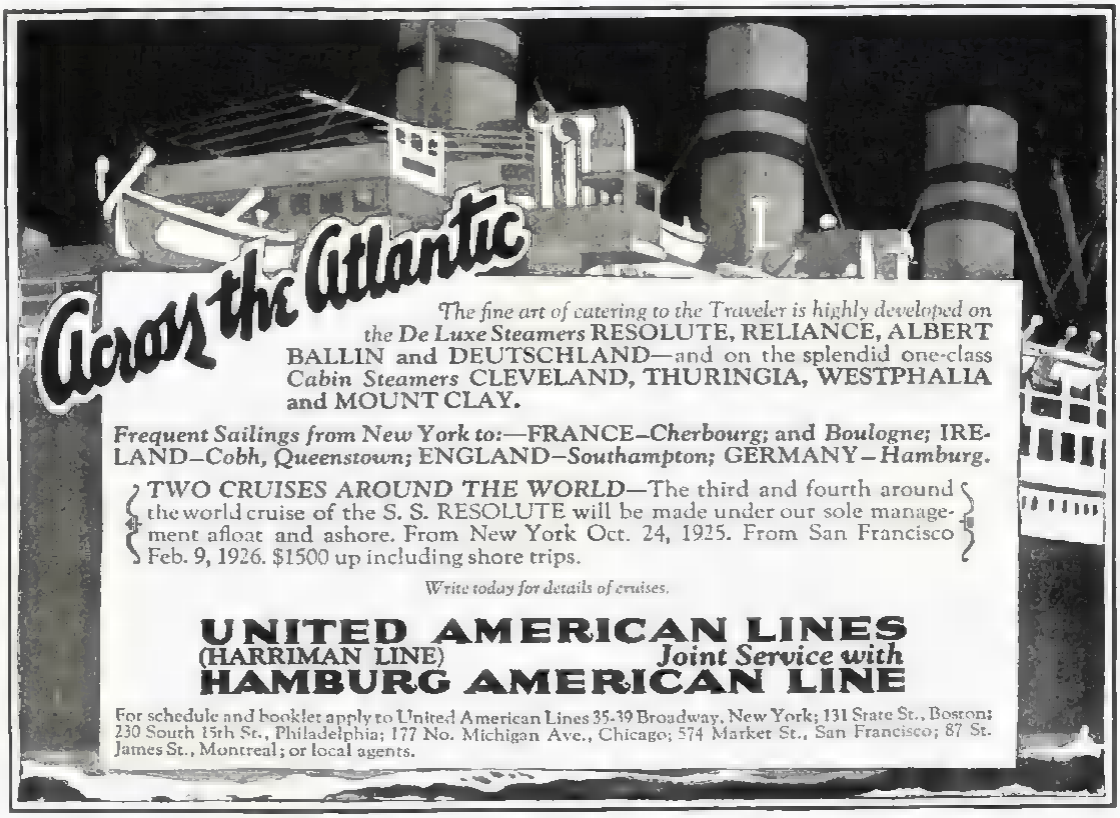
ÆTNA CASUALTY AND SURETY CO. AUTOMOBILE INSURANCE CO., OF HARTFORD, CONNECTICUT

SWEDEN
Welcomes You

YOUR summer can promise no finer trip—New York to Gothenburg in eight days, direct or via the continent—thence by modern electrified railway or by the fascinating Gota Canal route, a combination of cruise and ramble, unique in all the world, to Stockholm, "Queen of the Baltic." Spend enchanted days in Visby, the mystic mediaeval "City of Ruins and Roses"—to rural Dalecarlia, where ancient customs still are cherished—to Lapland, with its grandeur of mountains, waterfalls and lakes in the mellow glow of sunlit nights—and everywhere in Sweden the charm of friendly people, of smiling meadows and virgin forests, of singing rivers and romantic old castles.

English spoken everywhere. Booklet, "Tours of Sweden, 1925," from any travel bureau or

SWEDISH STATE RAILWAYS
Travel Information Bureau, 52 Vanderbilt Avenue, New York



The fine art of catering to the Traveler is highly developed on the ***De Luxe Steamers*** **RESOLUTE, RELIANCE, ALBERT BALLIN and DEUTSCHLAND**—and on the splendid one-class ***Cabin Steamers*** **CLEVELAND, THURINGIA, WESTPHALIA and MOUNT CLAY.**

Frequent Sailings from New York to:—FRANCE—*Cherbourg;* and *Boulogne;* IRELAND—*Cobh, Queenstown;* ENGLAND—*Southampton;* GERMANY—*Hamburg.*

TWO CRUISES AROUND THE WORLD—The third and fourth around the world cruise of the S. S. RESOLUTE will be made under our sole management afloat and ashore. From New York Oct. 24, 1925. From San Francisco Feb. 9, 1926. $1500 up including shore trips.

Write today for details of cruises.

UNITED AMERICAN LINES
(HARRIMAN LINE) *Joint Service with*
HAMBURG AMERICAN LINE

For schedule and booklet apply to United American Lines 35-39 Broadway, New York; 131 State St., Boston; 230 South 15th St., Philadelphia; 177 No. Michigan Ave., Chicago; 574 Market St., San Francisco; 87 St. James St., Montreal; or local agents.

Since 1839

RUSSWIN

RUSSELL & ERWIN

DISTINCTIVE HARDWARE

For the Bungalow—the Pretentious Home—the Monumental Structure

TO the mind trained to combine beauty, permanence, economy and "trouble-free" service, Russwin Hardware is today —as it has been for nearly a century— the logical choice for buildings of all types.

RUSSELL & ERWIN MANUFACTURING CO.
The American Hardware Corporation Successor
NEW BRITAIN, CONNECTICUT
New York Chicago San Francisco London

Residence of
GEORGE P. SPEAR
New Britain, Conn.
Architect
D. K. Percy
Contractor
A. D. Clemons Company

Hollywood Athletic Club
Hollywood, Cal.
Architects, Engineers and Builders
Meyer & Holler, Los Angeles, Cal.
Russwin Dealer
Bassett-Montgomery Hardware Company, Inc.

"To Russwin-ize is to Economize — the Economy of the Best"

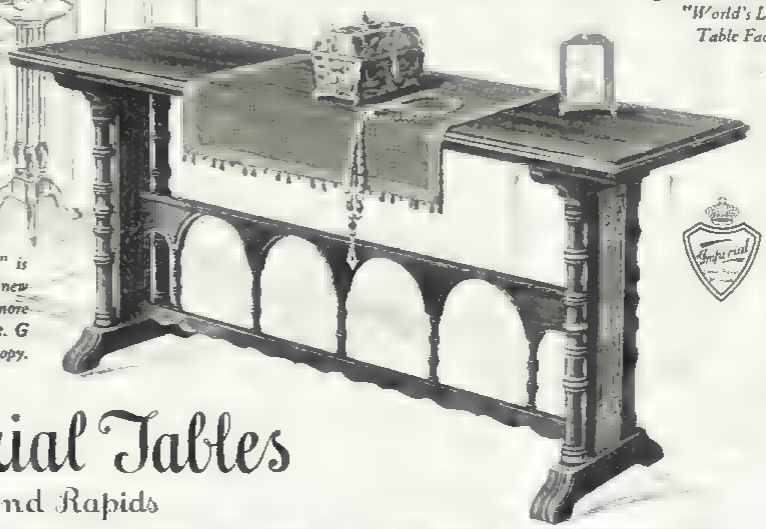
Chicago Tribune Building
Architects
John Mead Howells, New York
Raymond M. Hood, New York
Associated
Contractor
Holabird-Harris Company, Inc.

PROUDLY you exhibit your Imperial Table to guests of critical taste. Certain you are that its distinguished design, its blend of lovely woods and fine workmanship will reflect your good judgment.

Leading stores will gladly show you their new displays of Imperial Tables.

Imperial Furniture Co., Grand Rapids, Michigan

"World's Largest Table Factory"



"Heirlooms of Tomorrow" is a delightful book showing new ways to make your home more charming with tables. Dept. G will send you a free copy.

Imperial Tables

Grand Rapids

DUES

Annual membership in U. S., $3.00; annual membership abroad, $4.00; Canada, $3.50; life membership, $100. Please make remittances payable to the National Geographic Society, and if at a distance remit by New York draft, postal or express order.

RECOMMENDATION FOR MEMBERSHIP

IN THE

NATIONAL GEOGRAPHIC SOCIETY

The Membership Fee Includes Subscription to the National Geographic Magazine

PLEASE DETACH AND FILL IN BLANK BELOW AND SEND TO THE SECRETARY

.....*192*

To the Secretary, National Geographic Society,
Sixteenth and M Streets Northwest, Washington, D. C.:

I nominate.....

Occupation.....
(This information is important for the records.)

Address.....

.....

for membership in the Society.

.....

.....
Name and Address of Nominating Member

3-25

SIX-ROOM HOUSE NO. 636 *Designed for the Service Dept., American Face Brick Assn.*

One of the 154 small Face Brick houses for which complete building plans are available at nominal cost. Home-builders have purchased more than 3000 sets of these plans in four years.

Why It Pays to Use Face Brick

IT IS NOT so much what it costs to build a house as what it costs to keep it up that determines its real value as a home-building investment.

A Face Brick house costs from 6% to 10% more than one of less durable materials. But in a few years, savings in depreciation, repairs and upkeep, in insurance rates, and fuel costs, more than offset this difference.

Thus it is that, in the long run, you get the beauty, permanence and fire safety of the Face Brick house at an actual dollars and cents saving.

"The Story of Brick," free for the asking, gives you the facts. Read it and you will know why so many Face Brick houses are being built in all parts of the country.

"Face Brick Bungalow and Small House Plans" are issued in four booklets, showing 3 to 4-room houses, 5-room houses, 6-room houses and 7 to 8-room houses, in all 154, each reversible with a different exterior design. These designs are unusual and distinctive, combined with convenient interiors and economical construction. The entire set for one dollar. Any one of the booklets, 25 cents.

"The Home of Beauty" shows fifty two-story houses, selected from 350 designs submitted by architects in a nation-wide competition. Sent for 50 cents.

"The Home Fires," a most attractive fireplace book, with many designs, gives full directions for fireplace construction. Sent for 25 cents.

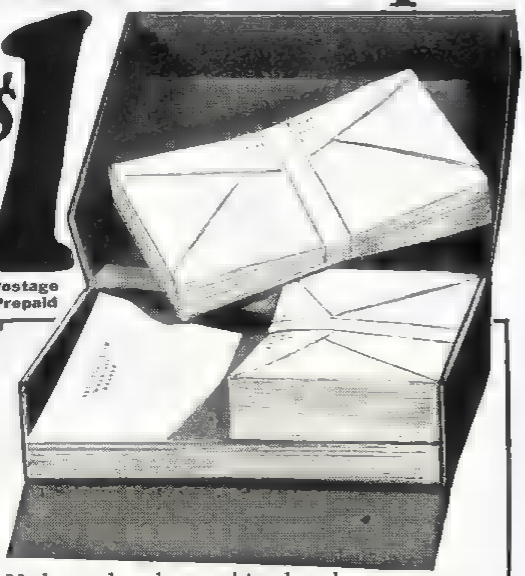
Perhaps you have a good old house to repaint or restucco. Better give it a permanent overcoat of beautiful Face Brick. It will last. Send for free booklet, **"A New House for the Old."** It will tell you all about it.

Address, American Face Brick Association, 1737 Peoples Life Building, Chicago, Illinois.

200 Sheets 100 Envelopes

$1

Postage Prepaid



High grade, clear, white bond paper—unusually smooth writing surface. Size 6x7 inches with envelopes to match. We give you much superior quality stationery at this low price as we sell this item only.

Your Name and Address Printed FREE

on every sheet and envelope, in rich dark blue, up to 4 lines. (Note—our low price does not allow any variation in printing. Top center of sheet and flap of envelope only). Type is Plate Gothic, designed especially for clearness and good taste. Makes a personal stationery you will be delighted to use.

Just send your name and address on the coupon below (write or print clearly) with $1.00 (west of Denver and outside of the U. S. $1.10) and this generous box of stationery will come to you neatly packed, postage prepaid. Money refunded if you are not more than satisfied. Order today!

National Stationery Co. 1553 Lincoln Highway, Batavia, Illinois.

Gentlemen—I enclose $1.00 ($1.10 for shipments west of Denver or outside U. S.) for which please send me postage prepaid, 200 sheets and 100 envelopes of National Stationery with my name address printed on each as follows:

.....

.....

.....

.....

To avoid errors please Write or Print Clearly

5-Room ALADDIN $498

WE PAY THE FREIGHT

NOT PORTABLE

You can buy all the materials for a complete home direct from the manufacturer and save four profits on the lumber, millwork, hardware and labor.

7-Room ALADDIN $825

Story and a half semi-bungalow, with second floor available for two bedrooms. Two excellent floor-plan arrangements are shown. Free Catalog.

7-Room ALADDIN $

Large living room, dining room, kitchen, pantry, three bedrooms, clothes closets, bath. Semi-open staircase and rear porch. Four-bedroom plan at same price.

Price includes all lumber cut to fit; highest grade interior woodwork, siding, flooring, windows, doors, glass, paint, hardware, nails, laths, roofing, with complete instructions and drawings. **Freight** paid to your station. Permanent Homes—NOT PORTABLE. Many styles to choose from. **Write nearest mill today for FREE Money-Saving Catalog No. 774.**

The ALADDIN Co. BAY CITY, MICHIGAN

Wilmington, North Carolina; Portland, Oregon; Toronto, Ontario

Plant **Kunderd** Gladioli

THEY STAND SUPREME

TRADE-MARK

WRITE for a copy of my 1925 Gladioli Catalog. It describes my new origination—Lacinated, and hundreds of the Ruffled, Plain-petaled and Primulinus Hybrid types of glads. Planting time is not far off. Don't face disappointment. Send for your catalog and then order promptly. Now is the time to buy gladioli.

A. E. KUNDERD

Box 62-C Goshen, Ind., U. S. A.

The Originator of the Ruffled and the Laciniated Gladioli

CLARK'S FAMOUS CRUISES

NORWAY AND WESTERN MEDITERRANEAN

From New York, July 1st, by specially chartered popular new Cunarder "Lancastria," 17,000 tons;

53 DAYS, $550 upward

over fascinating itinerary, including Lisbon (Madrid), Cadiz, Seville (Granada, Alhambra), Gibraltar, Tangier, Algiers, Naples, Rome, Genoa, Riviera, Gothenburg, Christiania, Bergen, Sogne Fjord, Edinburgh, Trossachs, Berlin. Stop-over privileges with return passage by Cunarders.

A SERIES OF ATTRACTIVE

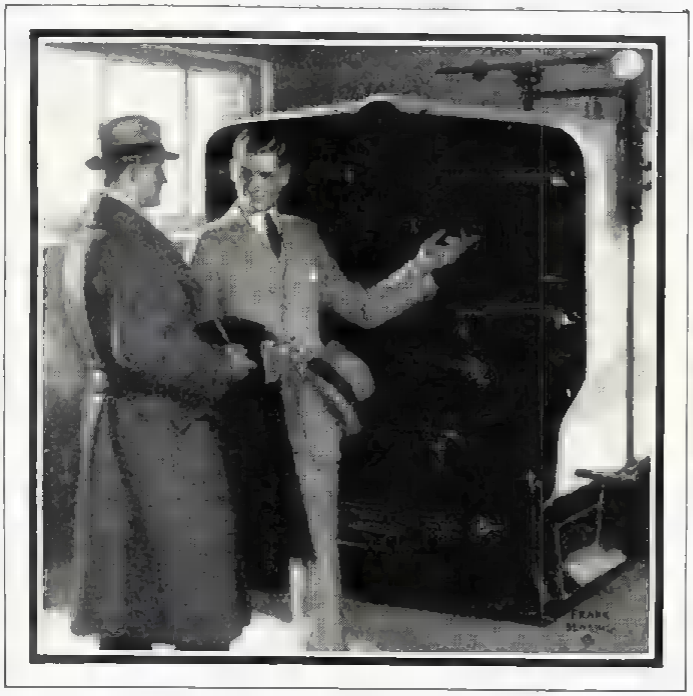
TOURS TO EUROPE

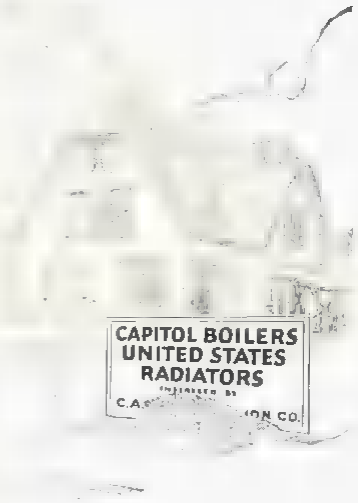
IN MAY, JUNE, AND JULY. REASONABLE RATES.

In 1926—Around the World Cruise, including Peking, Jan. 20; 128 days, $1250 up; Mediterranean Cruise, Jan. 28; 62 days, $600 up.

Originator of Around the World Cruises. Longest experienced cruise management. Established 30 years.

FRANK C. CLARK, Times Bldg., New York





A Capitol Boiler and United States Radiators will increase the market value of any building. Real estate men have clearly established this fact in selling both new and old properties.

No one, of course, wants to experiment with so vital a matter as heating equipment. So the sensible man looks for elements of reliability and economy that he can *depend* upon, and finds them in the Capitol name plate.

Behind United States products there are thirty-five years of manufacturing experience, a nation-wide organization of heating specialists, and the broadest written guarantee in the industry.

As any architect or heating contractor will tell you, all of these are factors that you can *rely* upon. They mean positive and final assurance that you can buy no better boiler than a Capitol.

We shall be glad to send you an illustrated booklet which fully explains the modern idea in house heating.

UNITED STATES RADIATOR CORPORATION
General Offices, Detroit, Michigan

Branch and Sales Offices

*Boston
*Springfield, Mass.
*Portland, Me.
*Providence, R. I.
New York
*Brooklyn
*Harrison, N. J.
*Philadelphia
*Baltimore
Buffalo
Pittsburgh
*Cleveland
*Columbus
*Cincinnati
*Detroit
*Chicago
*Milwaukee
*Indianapolis
*Louisville
*St. Paul
*St. Louis
*Kansas City
*Des Moines
*Omaha
*Denver
*Seattle
*Portland, Ore.

*Warehouse stocks carried at points indicated by star

Capitol Boilers

Orient

Tours *Via* Seattle

SEE the wondrous lands across the Pacific. There is no more fascinating travel experience in the world. Send the coupon now for the illustrated booklet, "Orient Tours via Seattle." It tells you about travel in Japan, China, the Philippines and how you may take this trip of a life-time at little more cost than an ordinary vacation. Get all the facts about the glorious voyage on U. S. Government ships over the American Oriental Mail Line's popular Short Route. Only 11 days to Yokohama. Lavish provisions are made for your comfort on these perfectly appointed sister ships:

Pres. Jefferson Pres. Jackson Pres. Grant
Pres. Madison Pres. McKinley

There is a sailing every 12 days from Seattle via Victoria, B. C., to Yokohama, Kobe, Shanghai, Hong Kong and Manila.

Send this Coupon Now

To U. S. SHIPPING BOARD
Infor. Office 1553 Washington. D. C.

Please send without obligation the new booklets about the Orient and the American Oriental Mail Line.
If I go date will be about _____

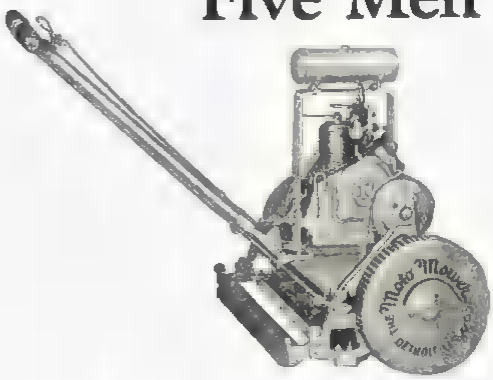
There will be _____ in my party.

Name _____

Address _____

American Oriental Mail Line
Operated for
UNITED STATES SHIPPING BOARD
by ADMIRAL ORIENTAL LINE
Managing Operators
32 Broadway . . . New York City
112 West Adams St. . Chicago, Ill.
L. C. Smith Bldg. . Seattle, Wash.
or local railroad and ticket agents

Does Work of Five Men



The Moto-Mower is a compact, easily operated, power grass cutter. Simple to control. Starts, stops and turns corners on its own power. Cuts as much grass per day as five men with hand mowers. Fast, practical and economical for large and small areas. Send today for catalog and prices.

THE MOTO-MOWER CO.
3244 E. Woodbridge St. Detroit, Mich.

it means less work

SANI-FLUSH has made cleaning the toilet bowl easier than any other household task. Simply sprinkle Sani-Flush into the bowl—follow directions on the can—and flush. Then watch how quickly and thoroughly it does its wonderful work. The bowl is white and shining.

Sani-Flush removes every mark, stain and incrustation. Destroys all foul odors. Harmless to plumbing connections. Keep a can in the bathroom.

Buy Sani-Flush at your grocery, drug or hardware store, or send 25c for a full-size can.

Sani-Flush

Reg U.S. Pat. Off.

Cleans Closet Bowls Without Scouring

THE HYGIENIC PRODUCTS CO., Canton, Ohio

Pittsburgh Proof Products

Glass Paint Varnish Brushes

The Old South Church, Newburyport, Mass.

THE Old South Church, Newburyport, Mass., one of America's choicest historical possessions is preserved by Sun-Proof paint which is a *protective*, not merely a decorative paint.

Sun-Proof Paint

—armors your building against decay with an elastic, moisture-proof, non-porous film that withstands ice, snow, soaking rains, and blistering, broiling sun. It will not check, crack, peel or blister! Great covering capacity per gallon, and extraordinarily long service make it exceedingly economical.

Whatever you need—Glass, Paint, Varnish or Brushes—the Pittsburgh Plate Glass Company has a product that exactly fills your requirements. Sold by quality dealers; used by exacting painters.

"Guide to Better Homes" *sent you free. Equal in information to any five dollar book on home furnishing and decoration. Write Dept. C, today.*

PITTSBURGH PLATE GLASS CO.

Paint and Varnish Factories ..... Milwaukee, Wis., Newark, N.J., Portland, Ore.

A Garden Full of Gladioli for $2.00

The Gladiolus is one of the most satisfactory flowers grown, and there is no reason why every family cannot enjoy this grand flower—it is as easy to grow as the potato.

Blooms from July to frost if you plant a few bulbs each month from April to July.

For **Two Dollars** we will send **50 Bulbs** of our **Grand Prize** Mixture, which covers every conceivable shade in the Gladiolus kingdom.

Each year we sell thousands of these bulbs and have received numerous testimonials as to their merit.

Order Your Bulbs Now, so as to have them to plant when you begin making your garden.

Simple cultural directions with every package

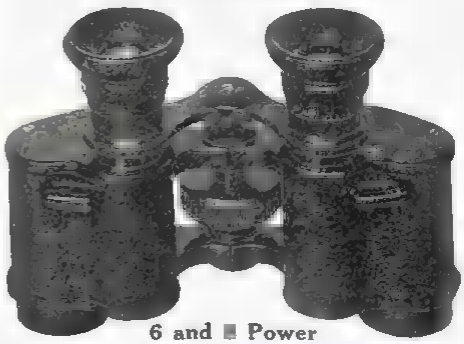
Mail this advertisement with check, money order, cash, or stamps, and secure this splendid collection, sent prepaid to any point in the U. S. east of the Mississippi. **For points West and Canada, kindly add 25c. to cover cost of delivery.**

Our 1925 Spring Seed Annual sent on request

Stumpp & Walter Co

30 and 32 Barclay Street **New York**

MILITARY BINOCULARS



6 and 8 Power

$19.50 POSTPAID

Case and carrying straps included

Genuine $40.00 to $50.00 prismatic binoculars with solid leather case and straps.
A splendid binocular at half saving for sportsmen, hunters, automobilists, mountain climbers, etc.
Equipped with high grade achromatic lenses. Made by leading foreign manufacturers.
Glasses have pupillary adjustment, day and night lenses. Approved for U. S. Army Officers.
Glasses will be shipped promptly on receipt of check or money order for $19.50, with positive guarantee of full cash refund on any glasses returned.
ORDER YOUR MILITARY BINOCULARS TODAY

HENDERSON BROTHERS

Largest Importers of Field Glasses in America

97 Federal Street **Boston, Mass**

Hear Ye! Hear Ye! Lovers of Coffee

THE COFFEE PROBLEM IS SOLVED!

A CUP OF HOT WATER, ONE TEASPOONFUL OF

Washington's **DELICIOUS INSTANT COFFEE**

SUGAR AND CREAM TO TASTE.

EACH CUP TO ORDER AT TIME OF SERVICE

WITHOUT TROUBLE OR FAILURE—UNIFORM QUALITY GUARANTEED.

Send 10c for Special Trial Size, Recipe Booklet Free

G. WASHINGTON COFFEE REFINING CO., 522 Fifth Avenue, New York

CENTURY SHEET MUSIC

You can't buy better—why pay more?

CENTURY gives you the world's best *music*, beautifully *printed* on the best *paper!* What more can sheet music be? There are over 2300 compositions in the Century catalog all 15c—12c in Canada, masterpieces like "Hungarian Rhapsody," "Ave Maria," "Alpine Hut," "Cradle Song," "Doll's Dream," etc.—all certified to be exactly as the masters wrote them. Ask for Century—Patronize the Century dealer. Century's low price is only possible because of his small profit. Complete catalog of over 2300 compositions free on request.

Thousands of successful teachers use and recommend CENTURY CERTIFIED MUSIC exclusively—because they know it is all that good music can be at half the price or less; and they know parents appreciate the saving.

Century Music Publishing Company, 211 W. 40th Street, New York City

CENTURY Certified EDITION SHEET MUSIC

To all outdoors, your windows should say: "ENTER"

LET the ever-changing pictures of outdoors into your house through Plate Glass. The brilliant autumn foliage of a hard maple, the delicate filigree of a snow-covered elm, the color riot of an old-fashioned flower garden—these are seen in their full beauty only through the perfect clarity of Plate Glass.

The surfaces of Plate Glass are flat and parallel. They are highly polished, consequently they are easily and quickly cleaned. Plate Glass cannot distort a view, caricature a landscape, or strain the eye as ordinary wavy window glass often does. Specify Plate Glass for any house, large or small. It pays for itself many times over in increased selling or renting value. It enhances the exterior appearance as nothing else can. And it costs less than one per cent of the total cost of the house. Get the figures from your architect.

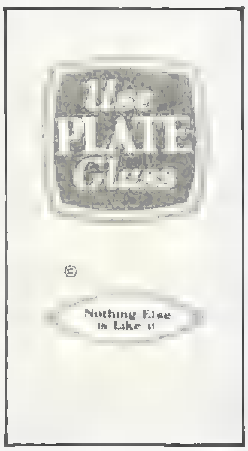
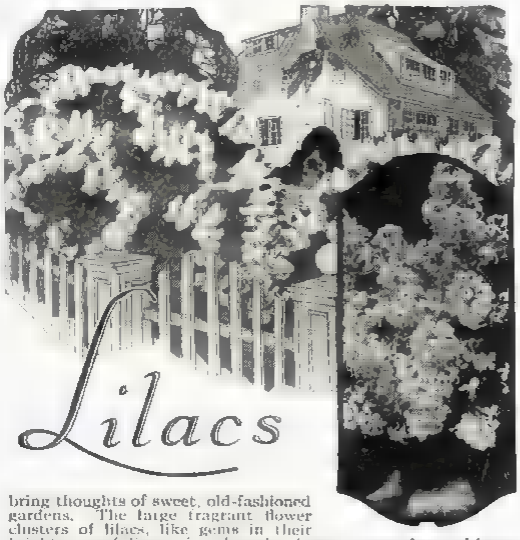


PLATE GLASS MANUFACTURERS *of* AMERICA



Lilacs

bring thoughts of sweet, old-fashioned gardens. The large fragrant flower clusters of lilacs, like gems in their bright green foliage, give charming beauty to garden and lawn in earliest spring.

Our famous "HIGHLAND PARK COLLECTION" will thrive in any fertile soil.

■ Varieties—$10.00

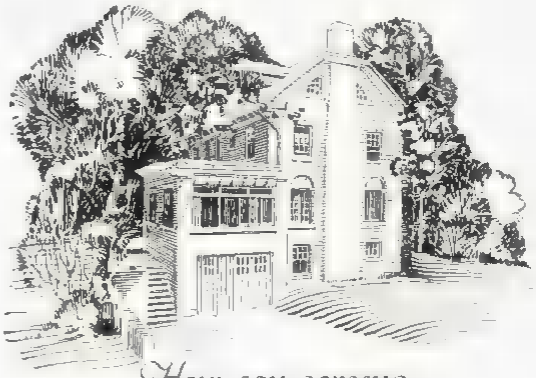
De Miribel.—Single, bluish violet color. **Pasteur.**—Single, vinous red. **Rai Albert.**—Buds purple, shaded mauve when expanded. **Chas. Jolly.**—Double, deep wine red. **Mme. Abel Chatenay.**—Double, pure white. **Pres. Loubert.**—Purplish red.

Write for our beautiful free thirty-two page Catalogue "G," illustrated in colors, describing fruits, berries, evergreens, nut and shade trees and all kinds of flowering shrubs.

GLEN BROTHERS, Inc.

Nurserymen and Landscape Architects

Glenwood Nursery **Rochester, New York**



How can screens beautify the home?

The architect condemns the ordinary clumsy wooden screen. He says: "Choose unobtrusive screens, with narrow, metal frames, strong and durable, and with non-rusting copper screen cloth—like Higgin All Metal Screens. They assist in securing my architectural effects."

Send for booklet

This free booklet tells how to correctly and attractively screen every type of door and window.

HIGGIN
ALL METAL
WINDOW SCREENS

THE HIGGIN MFG. CO., 505 Washington St., Newport, Ky.

Consult the "Supreme Authority"

For Answers to Questions About Words, People, Places

WEBSTER'S NEW INTERNATIONAL DICTIONARY, *The Merriam Webster.*

Constantly improved and kept up to date, NEW WORDS, NEW GAZETTEER; copyright, 1924. A whole library in one volume—451,000 entries, including 407,000 vocabulary terms, 12,000 biographical and 32,000 geographical subjects. 6,000 illustrations. Ask for sample page of new words; specimen pages on regular and India papers; booklet, "You Are the Jury." Free Pocket Maps if you mention The Geographic.

G. & C. MERRIAM COMPANY Springfield, Mass.

PLAN YOUR FUTURE HOME *NOW*

with Stillwell California Style (All-climate)

PLAN BOOKS

"All-American Homes"
50 houses, 7 to 10 rooms—$1

"The New Colonials"
50 houses, 6 to 10 rooms—$1

"S. W. Stucco Homes"
75 duplexes & bungalows, $1

"West Coast Bungalows"
60 houses, 6 and 7 rooms—$1

"Little Bungalows"
75 houses, 3-4-5 rooms—$1

SPECIAL OFFER. Send $2.50 for any three of these books and get Garage Folder FREE.

Money back if not satisfied.

E. W. STILLWELL & CO., Architects, 279 Cal. Bldg., Los Angeles

Pin Up Your Favorite Pictures From Geographic

Mounted ■ unmounted prints are easily fastened up without injuring walls ■ pictures, with

Moore Push-Pins

Glass Heads—Steel Points

For the framed pictures, or any other heavy wall decorations, ■

Moore Push-less Hangers
"The Hanger with the Twist"

10c. Pkts. Everywhere

Moore Push-Pin Co., Philadelphia, Pa.

FOR THAT UNMARKED GRAVE OR FAMILY PLOT

PRESBREY-LELAND-MEMORIALS

AT LESS THAN ORDINARY COMMERCIAL MONUMENTS.

TWELVE DESIGNS HAVE BEEN CREATED BY THE SAME TALENT THAT PRODUCED 20,000 PRESBREY-LELAND MEMORIALS IN EVERY STATE AND SEVERAL FOREIGN COUNTRIES

THE PRICES—$100 TO $1000—A LOGICAL RESULT OF ECONOMY IN PRODUCTION—ARE BASED UPON UTILIZING SURPLUS GRANITE RESULTING FROM QUARRYING FOR LARGER WORK

WHITE DUMMERSTON BY GOVERNMENT TEST THE HARDEST OF AMERICA'S NON STAINING WHITE GRANITES. IS EXCLUSIVE WITH US. THE FINISH IS OUR SAME HIGH STANDARD MAINTAINED FOR A QUARTER CENTURY.

THE MONUMENTS ARE SHIPPED DIRECT TO YOU FROM VERMONT, THE GRANITE CENTER OF THE WORLD – NO INTERMEDIATE PROFITS OR EXPENSES

WRITE FOR PORTFOLIO "K"

THE PRESBREY-LELAND CO.,
681 FIFTH AVENUE, NEW YORK

PRESBREY-LELAND-MAUSOLEUMS

Joys of the Open

in an "AUTO-KAMP" TRAILER

You can take your "Auto-Kamp" wherever your car will go—by lakes of bass, streams of trout, deep piney woods, the mountains and the valleys. Camp pitched and "struck" in a few minutes. The "Auto-Kamp" carries everything you need for a perfect open-air vacation—two double spring beds, mattresses, pillows, electric lights, built-in ice box and provision container, stove, folding table and shelves, insect-proof, rain-proof tent, poles, etc. A real outfit. Thousands in use. Model No. 4, $345 F.O.B. Saginaw. Others less, depending upon equipment. *Write for full details, specifications etc.*

AUTO-KAMP TRAILER CO.
3225 SHERIDAN AVENUE SAGINAW, MICHIGAN

Molloy Geographic Covers

Bind your Geographics for all time with beautiful two-tone embossed leather-cloth Molloy Geographic Covers, and make them into permanent volumes for your library.

Punch and instructions with each cover enable you to bind them yourself easily and without sewing or gluing. Specify volume and year desired. Years from 1910 to 1925 now ready. Each cover holds six numbers. $2 each or $3.65 a pair. Satisfaction guaranteed.

THE DAVID J. MOLLOY COMPANY
2863 North Western Avenue, Chicago, Illinois

Crane's Cordlinear

New—in its smart "cord" effect and self-tone vertical lines. New—in the unusual folds of its letter sheets and novel envelope shapes. New—in its delicate colorings. Old—only in its quality—that same dependable quality which has characterized Crane's papers for over a century.

A writing paper of distinction with just the proper touch of novelty.

EATON, CRANE & PIKE CO., 225 FIFTH AVE., NEW YORK

For Fine Writing

Writers who like a firm pen, with a fine yet smooth point, prefer the Esterbrook "Inflexible". It is the ideal pen for the accountant and bookkeeper.

Each Esterbrook pen is a writing instrument made of the finest steel, by an organization which has studied the delicate art of pen making for 67 years.

Send 15 cents for the world's dozen favorite pens. "100 famous signatures" FREE.

Address Department ■

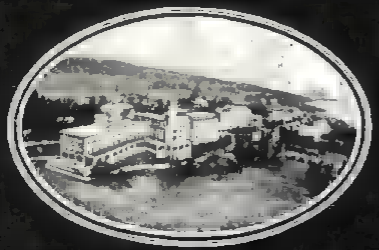
Esterbrook Pen Mfg. Co.
Camden, N. J.

Canadian Agents
Broun Bros., Ltd.
Toronto

Always a FRESH Esterbrook

"WHITING-ADAMS"
The Household Buy-word meaning
Good Brushes
Look for the name WHITING-ADAMS on every brush you buy. Whiting and Adams have been household buy-words for brushes for over 116 years — always standing for service and satisfaction.
WHITING-ADAMS
BRUSHES

JOHN L. WHITING-J. J. ADAMS CO., Boston, U. S. A.
Brush Manufacturers for Over 116 Years
and the Largest in the World



THE GLEN SPRINGS

WATKINS GLEN, N.Y.
ON SENECA LAKE

Open All Year — Wm. E. Leffingwell, Pres.

A Health Resort and Home, with complete facilities for the treatment of heart, circulatory, digestive and nervous disorders. Valuable mineral springs—highly radio-active. Baths under specialized medical direction. Illustrated booklets on request.

New—different—beautiful

"Star Guide to Good Roses"

lists America's 100 best roses—first time such a list was ever published. 100 pages, 18 in full color. The short cut to rose selection and rose satisfaction. New "Star Guide" describes roses as never before. It's *free.* Write today!

"Star" roses bloom, or your money back

THE CONARD-PYLE CO.
★ *Formerly Conard & Jones Co.* ★
STAR ROSE GROWERS Box 8 WEST GROVE, PA.

THIS MAGAZINE IS FROM OUR PRESSES

JUDD & DETWEILER, INC.
Master Printers
ECKINGTON PLACE AND FLORIDA AVE.
WASHINGTON, D. C.

Lead is used by man in almost countless ways. But its most general use is in lead paints. Red-lead and white-lead are known and used the world over.

Red-lead helps man win the greatest war of all time

THIS war is between man and Nature. What man builds, the forces of Nature try to destroy. Nature is everlastingly striving to return all materials to their original and most stable form. So it has been since the beginning of time.

Man uses in his structures, among other materials, the strongest metal he has—steel. Opposed to it is one of Nature's strongest elements—moisture-laden air. The air attacks this metal which man has won from Nature and tries, by what is known as rusting, to draw it back to its original state. If the metal is left to face the attack alone, it soon weakens. It crumbles—is destroyed.

But few steel structures are permitted to rust rapidly away. Man thwarts Nature by protecting his steel with an armor of lead paint. With pure red-lead such as Dutch Boy red-lead he makes a paint covering through which air and moisture do not penetrate. The life of steel is prolonged indefinitely with this armor of paint derived from the metal lead.

Dutch Boy red-lead has stood all tests for durability. It makes a hard, tenacious film that gives full and economical protection to the metal surfaces it covers. It comes in the natural red-lead color and can be shaded to browns, greens, and black.

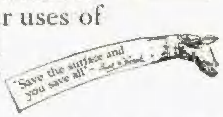
We shall be pleased to send you "The Handy Book of Painting," which has a special section devoted to the protection of metal surfaces.

Other Dutch Boy Products

In the famous Dutch Boy series of products, besides red-lead, there are white-lead, flatting oil, solder, linseed oil, and babbitt metals.

National Lead Company, in addition, makes lead products for practically every purpose to which lead can be put in art, industry, and daily life. Among the products are litharge, sheet lead, lead bars, lead cames, lead pipe and lead tubing.

If you desire specific information about any of these or other uses of lead, or on any special painting problem, write to our nearest branch.



NATIONAL LEAD COMPANY

New York, 111 Broadway; Boston, 131 State Street; Buffalo, 116 Oak Street; Chicago, 900 West 18th Street; Cincinnati, 659 Freeman Avenue; Cleveland, 820 West Superior Avenue; St. Louis, 722 Chestnut Street; San Francisco, 485 California Street; Pittsburgh, National Lead & Oil Co. of Pa., 316 Fourth Avenue; Philadelphia, John T. Lewis & Bros. Co., 437 Chestnut Street.

From the House of Banister

The
RENFREW

These men . . . in the higher places

YOU find them—these men who wear Banister Shoes—in the higher walks of life. Not that the shoes, of themselves, carry them there!

But men who do things, who wrest from life the best it has to offer, choose for their own comfort and appearance what their critical judgment tells them is right for them.

It has been so for eighty years. Today it is true. It will be so in the years of tomorrows.

Are you acquainted with a Banister dealer? If not, it will pay you to write for the names of those nearest you.

JAMES A. BANISTER CO.,
NEWARK, NEW JERSEY.

BANISTER *Shoes*

Since 1845 the Choice of Gentlemen

"Yes, rugs must be beaten regularly"

DIRT—*dangerous, destructive dirt!*—is being found in rugs that were thought to be clean. A simple test—which you, too, can make* . . . is proving that *rugs must be beaten* if the embedded sharp-edged dirt which cuts rug nap is to be *thoroughly* removed. As a result, The Hoover is the largest selling electric cleaner! For The Hoover BEATS . . . keeping rugs immaculate. The Hoover sweeps, easily and quickly. The Hoover Air-cleans, even to dusting, *dustlessly*, its remarkable new attachments serving your every need. Yes, The Hoover is the *complete home-cleaning servant.* And your Authorized Hoover Dealer will deliver one, complete with attachments, for only $6.25 down.

The HOOVER

It BEATS ··· as it Sweeps as it Cleans

**To prove rugs need beating:*

Turn over a corner of a rug; with the handle of an ordinary table-knife, or something of equal weight, give the under or warp side 15 to 25 sharp *taps* and watch the dirt dance out from the nap depths onto a piece of paper. Feel the destructive character of this grit. *This is the dirt only beating will dislodge.* Correct use of The Hoover causes this embedded dirt to be *vibrated* to the surface by the rapid, gentle *tapping* of the Hoover brush, as powerful suction lifts the rug from the floor and draws all the dirt into the dust-tight bag.

THE HOOVER COMPANY, NORTH CANTON, OHIO

The oldest and largest maker of electric cleaners · The Hoover is also made in Canada, at Hamilton, Ontario

PRESS OF JUDD & DETWEILER, INC
WASHINGTON, D. C.

RIVALS THE BEAUTY OF THE SCARLET TANAGER

Which Point Will You Have?

1-Extra fine-like this
2-Fine-like this
3-Medium like this
4-Broad-like this
5 Stub-like this

You can get all five degrees in the classic Duofold Pens

And All Points Guaranteed for 25-Years' Wear

FOR what kind of writing do you use a pen? How do you hold it? And what style of writing is entirely natural to your hand?

Close figure work or fine memoranda, for example, call for a fine or an extra-fine point. But the medium point, the broad, or the stub—these give one's penmanship a personality and character that make mighty valuable impressions in a letter or a signature.

These are reasons why, in the Classic Duofold Pens, Geo. S. Parker gives the world the whole five degrees of points that the five degrees of writing require.

Points you can lend without a tremor, for no style of writing can distort them. Points that are tipped with super-smooth Iridium, for which we pay a premium of 200%. Points that we guarantee, if not mistreated, for 25 years' WEAR.

And every point set in a shapely, hand-balanced barrel that feels so inspiring you hate to lay it down.

You can buy cheaper pens, but is the saving worth it? For you can't compete with the world on even terms if your pen can't keep pace with the Duofold.

Any good pen counter will sell you this beauty on 30 days' approval. Flashing black, or black-tipped lacquer-red, the color that's handsomer than gold and makes this a hard pen to mislay.

THE PARKER PEN CO., JANESVILLE, WISCONSIN

NEW YORK, CHICAGO · *Parker Duofold Pencils to match the pen,* $3.50 · SAN FRANCISCO

Over-size, $4

THE PARKER FOUNTAIN PEN COMPANY, LIMITED, TORONTO, CANADA

THE PARKER PEN CO., LIMITED, 2 AND 3 NORFOLK ST., STRAND, LONDON, ENGLAND

Red and Black Color Combination Reg. Trade Mark U. S. Pat. Office

Parker Duofold LUCKY CURVE OVER-SIZE **$7**

With The 25 Year Point

Slender Lady Duofold **$5**
Ribbon $1 Extra

Over-size Duofold **$7**
Duofold Jr. Same except for size **$5**